

# 17th Annual Doctors' Recognition Day

Virtual Symposium, Poster  
Presentations & Physicians' Exposition

**SUNDAY, MAY 16, 2021 | 5-7 PM**  
**VIRTUAL EVENT**

Hosted by:





## Message from the President

May 16, 2021

Although we may be in turbulent times now due to Covid, we should take this time to acknowledge the hard work and dedication shown by our essential workers during the covid crisis. With the Bronx being one of the hardest boroughs hit with this pandemic, teamwork was needed and the Bronx showed up in record numbers to help combat this virus.



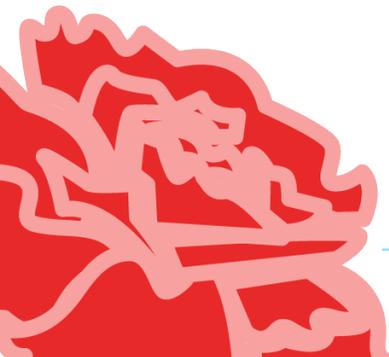
To the essential workers who live and/or work in the Bronx, physicians give our thanks and appreciation. The Bronx physicians are especially thankful for the support of nursing, housekeeping, administration, clerical staff, food service, social workers, therapists, etc as all hands on deck were needed for any hospital to properly function.

We are grateful for our local politicians and physicians who made sure the Bronx was not forgotten when it came time to distribute the vaccine and provide education outreach to those in the Bronx.

As my term as President for the Bronx County Medical Society comes to a close, and as someone whose parents grew up on Gun Hill Road, I am proud to be part of this Bronx community and will work to continue to highlight those who made invaluable contributions for the Bronx. While there is still more to be done, now is the time to reflect and give a special thanks tonight as we honor our Peer to Peer nominees.

Sincerely,

Michelle Stern, MD  
President, Bronx County Medical Society



## Sponsors

We welcome our valued partners  
who helped make this event possible.

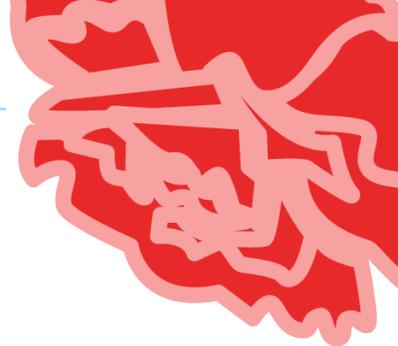
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## Schedule

**5:00-6:00PM**

FEATURED SPEAKER

Barry Zingman, MD - Medical Director, AIDS Center, Clinical Director of Infectious Diseases Moses Division, Professor of Medicine at Albert Einstein College of Medicine.

**6:00-7:00PM**

PEER TO PEER &  
POSTER PRESENTATION AWARDS

## Poster Presentation Chairs

David Jakubowicz, MD

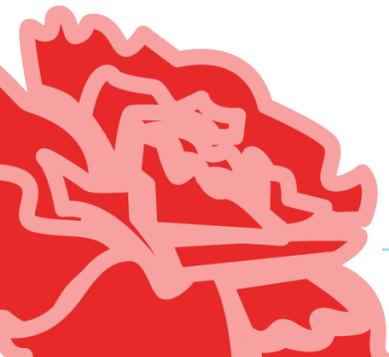
Nina Huberman, MD

## Poster Judges & Advisors

Sarah C. Nosal, MD

Michelle Stern, MD

Sana Bloch, MD



## Featured Speaker

**Barry Zingman, MD**  
Medical Director, AIDS Center, Clinical Director of Infectious Diseases Moses Division, Professor of Medicine at Albert Einstein College of Medicine.

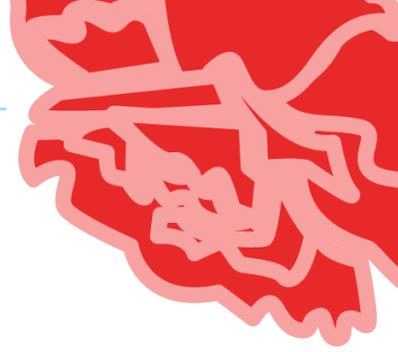
Barry S. Zingman, M.D., has been the Medical Director of the AIDS Center at Montefiore since 2003 following his service as Medical Director of the AIDS Center's Center for Positive Living/Infectious Diseases (CPL/ID) Clinic for five years.



Dr. Zingman directs the largest multidisciplinary and multispecialty adult HIV/AIDS treatment and prevention program in New York State. His program's clinical sites include (1) the Center for Positive Living/I.D. Clinic, for HIV, Hepatitis C, and general Infectious Diseases care; (2) The Oval Center at Montefiore, which provides screening and treatment for sexually transmitted infections, HIV pre- and post-exposure prophylaxis programs, LGBT care, and Hepatitis C care; and (3) other inpatient and outpatient sites at the Moses Division of Montefiore Medical Center. He has been Principal Investigator or Medical Director on over 75 HIV/AIDS-related research protocols and grants. These currently include grants from HRSA, the New York State Department of Health's AIDS Institute, NIH, and industry for multidisciplinary HIV primary care and testing; HIV retention, adherence and viral suppression; studies of broadly-neutralizing therapeutic HIV antibodies; new HIV viral load assays; response to pneumococcal vaccine in HIV+ and HIV- individuals; and studies of other new antiretroviral agents.

Dr. Zingman directs an HIV research team consisting of 6 study coordinators that enrolls over 200 patients per year into research protocols.

Dr. Zingman is Professor of Clinical Medicine at Albert Einstein College of Medicine. He is formerly Chair of the AIDS Institute's Medical Care Criteria Committee (the principal body setting HIV care guidelines in NYS); former Vice-Chair of the NYS AIDS Institute's Quality of Care Advisory Committee; and Chair or Member on numerous other state and national HIV quality and standard of care subcommittees. He is a practicing infectious diseases subspecialist and maintains an active patient panel in the CPL/ID Clinic and the Department of Medicine Faculty Practice.



## Peer to Peer Award Recipients

**NYC Health + Hospitals / Morrisania** - Nelly M. Maseda, MD, MPH

**North Central Bronx Hospital** - Jessica E. Stoeckel, MD

**Jacobi Medical Center** - Colin D. Cha Fong, MD

**The Institute for Family Health** - Alba Pumarol, MD

**SBH Health System** - Christopher Grantham, MD

**NYC Health + Hospitals / Lincoln** - Nail Cemalovic, MD

**Montefiore / Moses Campus** - Gregory Weston, MD, MSCR

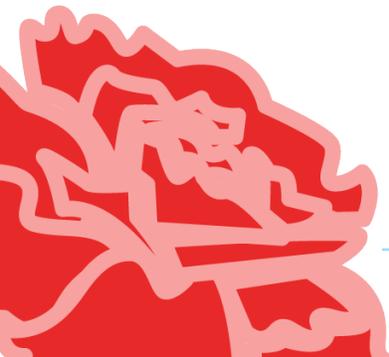
**Jack D. Weiler Hospital** - Inessa Gendlina, MD, PHD

**Montefiore / Wakefield Campus** - Marilou Corpuz, MD

**Children's Hospital at Montefiore / CHAMS** - Margaret Aldrich, MD

## Dr. Richard Izquierdo Contribution & Dedication Award Recipient

**Essen Health Care** - David Jakubowicz, MD



## Peer to Peer Excellence in Medicine Award Recipient

**Nelly M. Maseda, MD, MPH**  
NYC Health + Hospitals / Morrisania

Dr. Nelly M. Maseda is a pediatrician in Bronx, New York and is affiliated with Montefiore Medical Center. She received her medical degree from Albert Einstein College of Medicine and has been in practice for more than 20 years.

**Jessica E. Stoeckel, MD**  
North Central Bronx Hospital

Dr. Jessica E. Stoeckel is a pulmonologist in Bronx, New York and is affiliated with multiple hospitals in the area, including NYC Health and Hospitals-North Central Bronx and NYC Health and Hospitals-Coney Island. She received her medical degree from Temple University School of Medicine and has been in practice between 11-20 years. Dr. Stoeckel is board certified in Critical Care Medicine.

**Colin D. Cha Fong, MD**  
Jacobi Medical Center

Colin D. Cha Fong serves as the director of the Division of Hospital Medicine at Jacobi. He received his bachelor's degree from Yale University, and then spent 3 years teaching abroad before returning to the US. Since returning, he pursued various healthcare positions and then bioethics coursework at the University of Pennsylvania before attending Rutgers – Robert Wood Johnson to complete a dual degree MD/MBA program in 2006. He completed his residency training at The Mount Sinai Hospital in New York City in 2009 and joined Jacobi as an Academic Hospitalist that same year. He is an Assistant Professor of Medicine at the Albert Einstein College of Medicine, a board-certified internist, and a Fellow of the American College of Physicians. He particularly enjoys working with the diverse and international house staff at Jacobi, both in his role as a teaching attending and as an Associate Program Director for the residency.



## Peer to Peer Excellence in Medicine Award Recipient

### **Alba Pumarol, MD**

The Institute of Family Health

Dr. Alba Pumarol, MD is a Family Medicine Specialist in Bronx, NY and has over 30 years of experience in the medical field. She graduated from U Natl Pedro Henriquez Urena medical school in 1991.

### **Christopher Grantham, MD**

SBH Health System

Dr. Christopher A. Grantham is an internist in Bronx, New York and is affiliated with multiple hospitals in the area, including St. Barnabas Hospital and CarePoint Health Christ Hospital. He received his medical degree from American University of the Caribbean School of Medicine and has been in practice for more than 20 years.

### **Nail Cemalovic, MD**

NYC Health + Hospitals / Lincoln

Dr. Nail Cemalovic, MD is an Emergency Medicine Specialist in Bronx, NY and has over 9 years of experience in the medical field. He graduated from University of Missouri medical school in 2012.

He is a critical care trained emergency physician and worked in the two most critical areas (ED and ICU).

## Peer to Peer Excellence in Medicine Award Recipient

**Gregory Weston, MD, MSCR**  
Montefiore / Moses Campus

Dr. Weston is the physician Director of Infection Prevention and Control at the Moses Campus. During the Covid pandemic, the importance, breadth and scope of that role was greatly magnified. Dr. Weston has provided tireless support to all staff with PPE use, clarity around evolving infection control measures toward preventing potential nosocomial clusters. The contributions he has made this past year to staff and patient safety has been significant. Equally impressive is the way he does his job - performing with the highest degree of professionalism and integrity. His expertise, leadership and commitment to the safety of all at the Moses Campus has been a cornerstone of our response, and we are extremely grateful to have him on our team.

**Inessa Gendlina, MD, PHD**  
Jack D. Weiler Hospital

Dr. Gendlina is the East Campus Director for Infectious Disease and Infection Prevention. On the Einstein, Campus whenever there is a question about Covid - from diagnosis, to treatment, to infection control measures, to vaccine, to staff training and education- Dr. Gendlina is the right answer. She has led efforts at the Einstein Campus with great calm, competence and compassion. No task is too small are large. People from all levels of the organization have commented on her tireless leadership and unending dedication during this most difficult time period. In addition to being an outstanding clinical leader, she is also a great colleague and teammate who always maintains her focus on what is best for the patients and our staff. We could not be more grateful for and proud of Dr. Gendlina, and she is most deserving of this award.

## Peer to Peer Excellence in Medicine Award Recipient

**Marilou Corpuz, MD**  
Montefiore / Wakefield Campus

Dr. Corpuz is the Wakefield Campus Director of Infectious Diseases. In this role, she has been the key go to person for all Covid related issues. Under difficult circumstances, Dr. Corpuz has provided superior leadership. She has helped our staff and providers understand and react to a rapidly changing landscape. We greatly benefited from her years of experience and clinical expertise which helped fuel her thoughtful and effective approach. She was always available to answer questions and provide guidance to our whole team from junior housestaff and nurses to senior leadership. We are greatly appreciative of Dr. Corpuz's efforts and congratulate her on this well- deserved award.

**Margaret Aldrich, MD**  
Children's Hospital at Montefiore / CHAMS

Dr. Aldrich has provided extraordinary service to CHAM over the past year. She worked tirelessly to ensure that both our patients and entire staff were safe and well-informed during the COVID pandemic. She was thoughtful and thorough in considering the unique ways in which the pediatric setting was affected, while remaining aligned with the MMC institutional policies and protocols. When CHAM became one of the few hospitals in the country to have pediatricians care for adult Covid patients in a Pediatric Hospital, Dr. Aldrich was critical to the success of these efforts. The leadership of CHAM and the entire Moses Campus recognizes Dr. Aldrich for her impressive contributions and congratulate her on this well – deserved award.



The Bronx County Medical Society

# “Peer to Peer” Excellence in Medicine Recognition Award

Presented to

**Nelly M. Maseda, MD, MPH**

NYC Health + Hospitals / Morrisania

Your colleagues recognize the contributions that you have made to enrich the lives of the patients you care for

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Please know that your efforts have not gone unnoticed on this 16th day of May 2021. Presented at the 17th Annual Doctors' Day Symposium

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Michelle Stern, M.D., President  
Bronx County Medical Society

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Dr. Richard Izquierdo  
Contribution & Dedication Award

Presented to

David Jakubowicz, MD

Essen Health Care

On behalf of the entire organizing committee at Bronx County Medical Society. I am pleased to inform you that you have been selected for the Dr. Richard Izquierdo Contribution & Dedication Award.

This award is presented once a year to individuals in the Bronx who have gone beyond the call of duty in their commitment to the community they serve.

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Michelle Stern, M.D., President  
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## Poster Board Assignments

### Poster Presentations By Category

**Clinical Vignettes** - involves the presentation of one or more patient encounters that illuminate unique observation of a known disease, or that describes a novel disease process.

**Research** - implies the use of scientific method to drive original data in the patient care setting.

**Medical Education/PI** - A systematic, formal approach to the analysis of practice performance and efforts to improve performance.

21 Posters for Presentation

# Clinical Vignettes 1-10

## Poster 1

### Pituitary Metastasis Presenting with Central Diabetes Insipidus and Panhypopituitarism

Sahana Parthasarathy, MD, Donna H Lee, MD, Anjali Manavalan, MD

#### Background

- Pituitary metastasis (PM) was first reported by Ludwig Benjamin in 1857.
- Pituitary metastasis usually occurs in older individuals in the sixth and seventh decade of life .
- Several similarities exist between pituitary adenomas and PM, and it is important to distinguish between these two entities.

#### Case report

- An 81-year-old woman with a history of Stage IIA invasive ductal carcinoma in the left breast status post mastectomy with known lung metastasis presented with confusion for two weeks in January 2020.
- CT head showed a 1.8 cm and 2.3 cm calvarial lytic lesion in the right occipital bone and at the vertex, respectively
- MRI brain/pituitary revealed a well-circumscribed, enhancing suprasellar mass measuring 9 x 10 mm likely involving the pituitary infundibulum and hypothalamus with mass effect on the optic chiasm
- Laboratory results were consistent with secondary adrenal insufficiency, central hypothyroidism, hypogonadotropic hypogonadism and diabetes insipidus.
- She was treated with hormone replacement with improvement in her presenting condition. Following discharge, she also completed fractionated stereotactic radiosurgery
- Unfortunately, she passed away in January 2021 during a hospitalization for dyspnea from malignant pleural effusion

#### Discussion

- Pituitary metastasis is a rare complication of advanced malignancy. The most commonly involved malignancies are breast cancer in women and lung cancer in men. .
- pituitary adenomas tend to affect the anterior lobe of the gland, PM usually involves the posterior lobe and the infundibulum via the systemic circulation and the inferior hypophyseal artery.
- Given that PM more frequently involves the posterior lobe of the pituitary, about 30% of patients present with diabetes insipidus (DI).
- MRI with gadolinium is the gold standard for the evaluation of sellar masses. PM may be distinguished from a pituitary adenoma by invasion into the surrounding structures, constriction of the tumor at the diaphragmatic hiatus leading to a dumbbell shape, or hyperintensity of the optic tracts
- PM may be treated with surgery and radiation therapy (RT), neither of which alone or in combination can independently improve life expectancy. Surgery, RT, and intrathecal chemotherapy may be used for palliation and local symptom management, but they all pose the risk of panhypopituitarism
- Ultimately, life expectancy after a diagnosis of PM depends on the type of primary tumor and the burden of distant metastases and can vary from 6 months to 13.6 months.

#### Table and Figures

Laboratory Test	Level	Reference
	Measured	Range
TSH (u/L)	3.03	0.47-6.9
Free T <sub>4</sub> (ng/dl)	0.351	0.75-2
FSH (mIU/mL)	0.2	25.8-134.8
LH (mIU/mL)	<0.1	7.7-58.5
Estradiol(pg/mL)	<5	5-138
7AM ACTH (pg/mL)	3.4	7.2-63.3
7AM Cortisol (µg/dL)	0.6	6.2-29
IGF-1 (ng/mL)	88	17-193
Prolactin (mIU/mL)	30.47	4.79-23.3
<b>Before Desmopressin</b>		
Sodium (mEq/L)	154	135-145
Urine	162	50-1,200
Osmolality (mOsm/kg)		
<b>After Desmopressin</b>		
Sodium (mEq/L)	143	135-145
Urine Osmolality (mOsm/kg)	469	50-1,200

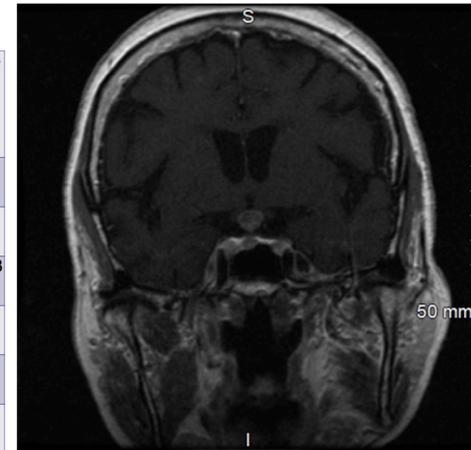


Figure 1 MRI Pituitary Coronal View.

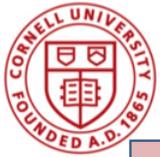
#### Conclusion

- While pituitary metastases remain rare, their prevalence is expected to increase due to more sensitive biochemical tests and imaging techniques coupled with advances in cancer therapy that help patients with metastatic disease live longer .
- The diagnosis of PM can be challenging and involves a thorough history, physical examination, biochemical evaluation, and imaging in the appropriate clinical scenario. Once there is a suspicion for PM, the integrity of the hypothalamic-pituitary axis should be confirmed as soon as possible, and hormone deficiencies, if present, should be addressed immediately

#### References

1. Al-Aridi R, *Pituitary*. 2014;17(6):575–587.
2. Komninos J, *J Clin Endocrinol Metab*. 2004;89(2):574–580.
3. Shimon I. *Neuroendocrinology*. 2020;110(9-10):805-808

Table 1. Laboratory Tests at Initial Presentation



# Prenatal Diagnosis of Duodenal Atresia: A Case Report



**Victor Sebastian Arruarana, MD**, Torrie Anderson, MD, Ogochuckwu Oseji, MD, Rochelle Johns, MD, Israel Benjamin, MD, Felipe Mercado Olivares, MD, Jana Yancey, RDMS, Andrej Bogojevic, MD, Shrawani Prakesh, MD, Ronald Bainbridge, MD, Kecia Gaither, MD MPH FACOG  
NYC Health + Hospitals Lincoln Bronx, NY

## Introduction:

The gastrointestinal (GI) tract is a highly complex organ system which is indispensable to the life of an individual. Congenital anomalies of the GI tract can impact any portion from the esophagus to the anus. Major anomalies of the small intestine include malrotation, Meckel's diverticulum, jejunoileal atresia, duodenal webs, and duodenal atresia. Duodenal atresia one of the more commonly noted congenital anomalies, diagnosed prenatally, is seen in approximately 1/2500-10000 births. Duodenal atresia is typically associated with Down's Syndrome or found in conjunction with other congenital anomalies. Perinatal ultrasound may be the first diagnostic test in the assessment of the disorder. Findings of polyhydramnios in the late second and third trimesters along with the classic finding "double bubble" -reflecting a dilated proximal duodenum and stomach-are virtually pathognomonic for the diagnosis. We present a case report of an isolated duodenal atresia in a fetus, and its management pre and post natal.

## CASE REPORT:

A 28 year old G5P3013 presented at 14 weeks for prenatal care. Her care was sporadic—she was seen again 22 weeks, at which time she had a normal anatomy scan, and normal genetic screening via NIPT. Patient wasn't seen again until 31 weeks at which time sonogram noted marked polyhydramnios- with an AFI of 41.2 cm, and an enlarged stomach; follow up assessment a week later denoted the classic "double-bubble" sign. A fetal echocardiogram performed revealed biventricular hypertrophy. Genetic and Neonatal consultations were performed—patient declined genetic amniocentesis. Patient presented at 38 weeks in labor and delivered a 2810 gram male infant vaginally, with APGARS: 8/9/9. The neonate was immediately transferred to NICU where a chest and abdominal x-ray were performed showing marked distention of the stomach and proximal duodenum, with no bowel gas distal to this level-- suggestive of duodenal atresia. Pediatric surgical consultation was recommended and the neonate was transferred to another hospital for further surgical intervention. Surgical repair was performed three days after delivery. Findings during the repair included a dilated duodenum proximal to blind end, collapsed distal duodenum and bowel malrotation with cecum and terminal ileum in LUQ, healthy bowel run from duodenum to TI. Ladd's procedure was performed as well as duodenoduodenostomy.

## DISCUSSION/ CONCLUSION:

Duodenal atresia is the most common cause of congenital small intestine obstruction. Prenatal ultrasound is paramount in early diagnosis ultimately allowing for proper identification and management of fetus both prenatally and postnatally.



**Figure 1:**

32w2d depicting double bubble sign



**Figure 2:**

Double Bubble sign noted again at 37w2d, 1 week prior to delivery

# Clinical Vignettes 3-10

## Poster 3



Montefiore

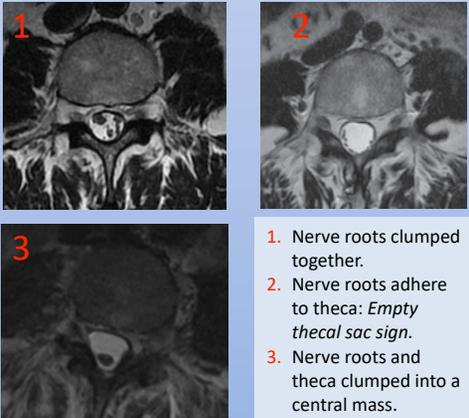
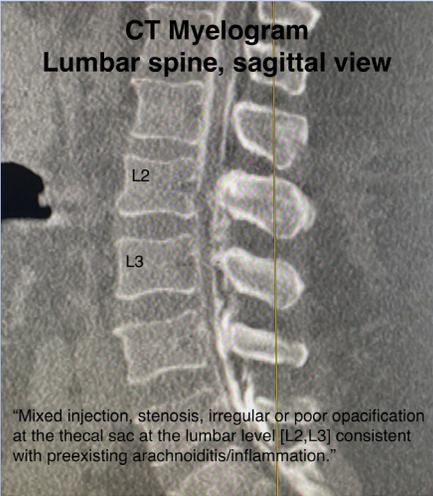
### Causing More Harm than Good - Arachnoiditis: A Case Report

Devin Oakes, DO; Maryam Hosseini, MD; Shayan Senthelal, MD; Kevin Sperber, MD



Jacobi

Department of Rehabilitation Medicine, Montefiore Medical Center and Jacobi Medical Center – The University Hospital for Albert Einstein College of Medicine

Background	Methods	Results	Results (continued)
<ul style="list-style-type: none"> <li>Arachnoiditis occurs when there is an irritant or insult (chemical, traumatic, or infection) to the subarachnoid space leading to the formation of adhesions.</li> <li>Patients with arachnoiditis will often present with pain in the back and paresthesias in the legs. Bowel and bladder function may also be affected.</li> <li>Prevalence is unknown, however it is estimated that 25,000 cases occur yearly in the Americas, Europe, and Asia.</li> </ul>	<ul style="list-style-type: none"> <li>During the initial evaluation, CT myelogram was done to investigate for cord compression as MRI was contraindicated; none was noted.</li> <li>With worsening pain and acute neurogenic claudicatory symptoms after initial injury, a CT myelogram was repeated, again showing no cord compression.</li> <li>However, the second CT myelogram was notable for <i>irregularity of the thecal sac, indicating pre-existing arachnoiditis.</i></li> </ul>	<ul style="list-style-type: none"> <li>A pro-inflammatory agent was likely introduced into the subarachnoid space during the first CT myelogram leading to arachnoiditis.</li> <li>Arachnoiditis occurs when pro-inflammatory agents such as skin antiseptic, blood via trauma or blood patch, or infectious agents are introduced into the subarachnoid space leading to fibrosis or nerve root adhesions.</li> </ul>	<ul style="list-style-type: none"> <li>A patient may present with persistent low back pain with radiation into lower extremities, paresthesias, leg spasms, weakness, and incontinence.</li> <li>Symptoms may develop weeks to decades following the initial insult.</li> <li>Diagnosis is made via imaging with MRI (most sensitive) or CT myelogram.</li> </ul>
Images			
Introduction	<p>Typical MRI (T2, axial) findings of Arachnoiditis</p>		
<ul style="list-style-type: none"> <li>A 46 year old male with a past medical history of sick sinus syndrome with MRI non-compatible pacemaker who presented with worsening midline low back pain and acute onset of radiating leg pain along with leg weakness.</li> <li>Known history of leg spasms and urinary incontinence after falling four weeks prior, sustaining compression fractures of multiple thoracic vertebrae.</li> </ul>	 <ol style="list-style-type: none"> <li>Nerve roots clumped together.</li> <li>Nerve roots adhere to theca: <i>Empty thecal sac sign.</i></li> <li>Nerve roots and theca clumped into a central mass.</li> </ol>	 <p>CT Myelogram Lumbar spine, sagittal view</p> <p>L2 L3</p> <p>"Mixed injection, stenosis, irregular or poor opacification at the thecal sac at the lumbar level [L2,L3] consistent with preexisting arachnoiditis/inflammation."</p>	
Conclusion			
<ul style="list-style-type: none"> <li>The treatment of arachnoiditis is supportive.</li> <li>Surgical removal of scar tissue or placement of a CSF shunt may be done, however results vary.</li> <li>The consequences of arachnoiditis highlight the importance of ensuring proper procedural technique to minimize the risk of this rare, but potentially devastating, complication.</li> </ul>			
References			
<ol style="list-style-type: none"> <li>Chiapparini L, Sghirlianzone A, Pareyson D, Savoiaro M. Imaging and outcome in severe complications of lumbar epidural anaesthesia: report of 16 cases. <i>Neuroradiology.</i> 2000;42(8):564.</li> <li>Killeen T, Kamat A, Walsh D, Parker A, Aliashkevich A. Severe adhesive arachnoiditis resulting in progressive paraplegia following obstetric spinal anaesthesia: a case report and review. <i>Anaesthesia.</i> 2012;67(12):1386-1394.</li> <li>Kumari M, Bhardwaj M, Choudhary A. A rare cause of progressive neuropathy: Arachnoiditis ossificans. <i>Indian J Pathol Microbiol.</i> 2019;62(1):114-116.</li> <li>Sklar EM, Quencer RM, Green BA, Montalvo BM, Post MJ. Complications of epidural anesthesia: MR appearance of abnormalities. <i>Radiology.</i> 1991;181(2):549.</li> <li>Wright MH, Denney LC. A comprehensive review of spinal arachnoiditis. <i>Orthop Nurs.</i> 2003;22(3):215-221.</li> <li>Picture 1. Case courtesy of Dr Marcin Czarniecki, <i>Radiopaedia.org</i>, rID: 26210</li> <li>Picture 2. Case courtesy of Dr Roberto Schubert, <i>Radiopaedia.org</i>, rID: 25838</li> <li>Picture 3. Case courtesy of Assoc Prof Frank Gaillard, <i>Radiopaedia.org</i>, rID: 33345</li> </ol>			

# Clinical Vignettes 4-10

## Poster 4

### Cerebritis secondary to EBV reactivation following COVID-19 Infection

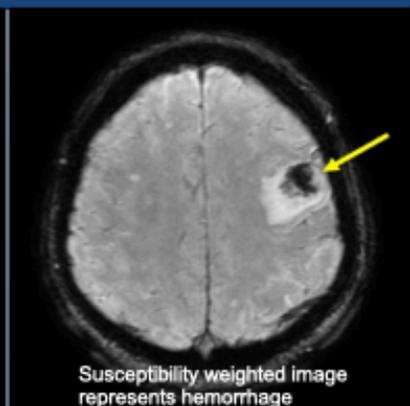
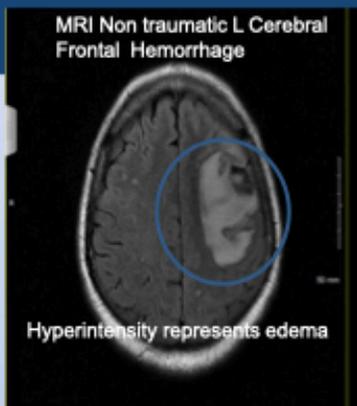
Jennifer M. Cushman MD, Puneet Rana MD, Michelle Stern MD

Department of PM&R, Jacobi Medical Center- NYC Health and Hospitals  
Montefiore Medical Center, The University Hospital for Albert Einstein College of Medicine



#### Case Presentation

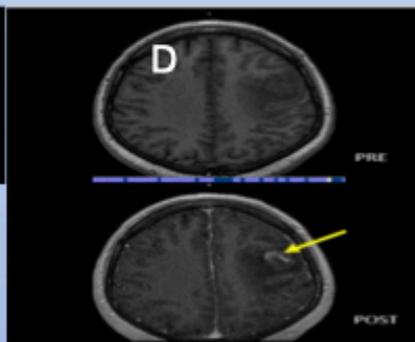
- 62 yo M with HTN, BPH, resolved Covid-19 infection with Covid-19 positive antibodies presents to ED with right hemiparesis, dysarthria, BLE numbness.
- Brain MRI showed marked increase in enhancement, vasogenic edema, and acute microhemorrhages associated in the L frontoparietal lobe consistent with L frontoparietal cerebritis.
- Lumbar puncture: CSF-positive for EBV with pleocytosis.
- EBV infection was also confirmed on brain biopsy.
- Patient had worsening lethargy throughout admission.
- Admitted to acute inpatient rehab after left frontal craniotomy to treat worsening brain swelling. His hospital course was significant for multiple episodes of altered mental status and a clinical deterioration with worsening right hemiparesis.
- Hospital course was complicated by SIADH, cardiomyopathy and thrush. He was also found to be coxsackie A IGG positive.
- Ganciclovir was discontinued due to chills and chest pain 2 days after starting medication.
- Dexamethasone was tapered due to consistently elevated residual blood sugars.
- Residual symptoms included right hemiparesis and facial droop, fatigue, dysarthria and transient altered



**LABS:**  
LP: CSF Glc 81, protein, 600, WBC 420, EBV(+) pleocytosis  
CRP: 8.8 (nl 0-5)  
Lymphocyte %: 16.7 → 5.4 in 6 days  
Coxsackie A IGG (+)  
Ferritin: 365

**D. T1 weighted imaging, interval enlargement of hypointense focus with increased enhancement Post-contrast**

**References:**  
1. EBV DNA increase in COVID-19 patients with impaired Lymphocyte subpopulation count. Stefania Paolucci, Irene Cassaniti, et. al. San Matteo Pavia COVID-19 Task Force Int J Infect Dis. 2020 Dec 21; S1201-9712(20)32575.  
2. Alteration in COVID-19 Pneumonia. Characteristics of Peripheral Lymphocyte Subset. Fan Wang, Jiayan Nie et. al J Infect Dis. 2020 May 11; 221(11):1762-1769.  
3. Epstein-Barr Virus and Cytomegalovirus Reactivation in Patients with COVID-19. Jae Hyoung Im, Jin-Soo Lee et. al <https://jvi.asm.org/content/93/24/e00980-19>



#### Discussion

- Several published reports highlight that in severe Covid-19 infection a significant decrease in lymphocytes, particularly in CD8+ T cells, has been observed.
- Reactivation of Epstein-Barr virus (EBV) and Cytomegalovirus (CMV) may relate to immune dysfunction and follow COVID-19 infection.
- NK and CD8+ T cell reduction correlates with the severity of COVID-19 infection.
- There is also a correlation between reduced CD8+ T cells and NK counts as well as EBV DNA levels.
- Neurological complications may result from an imbalance of inflammatory mediators/markers and immunological dysfunction allowing viral transformation and a predisposition to opportunistic viral infections seen in this patient.
- Cerebritis can occur secondary to an inflammatory response to EBV reactivation.
- Hemorrhagic strokes are a potential neurological complication of cerebritis or various forms of vasculitis.
- Many of the neurologic complications seen in this case can be explained by a host inflammatory response causing cerebritis and brain edema.
- Physiatrists should be aware of and anticipate complications associated with the Novel Sars-Cov-2/ Covid-19 infections.

# Clinical Vignettes 5-10

## Poster 5

NYC  
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### Prenatal Diagnosis Of Ocular Anomalies

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Department of Obstetrics & Gynecology, Division of Maternal Fetal Medicine  
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Weill  
Cornell  
Medicine

#### Introduction:

The eye is a highly complex structure comprised of varied specialized cells and tissues which perform a myriad of functions. With such degree of specialization, there exists the potential for susceptibility to a wide range of diseases.

#### Case:

An 18 year old Hispanic Female presented as a late registrant for prenatal care at 23w 4d of gestational age. Family, medical and surgical histories were unremarkable. NIPT screen was negative for aneuploidy. Patient denies any foreign travel.

Anatomical survey was performed which revealed bilateral echogenic foci in both eyes, suspicious for congenital cataracts. TORCH Parvovirus and ZIKA analysis were undertaken with negative results.

Fetal echocardiogram was deemed normal. Patient was referred for MRI evaluation which will be undertaken at 28 weeks of gestation

Image1.  
Lenses noted bilaterally



Image2 and 3.  
Echogenic foci in eyes bilaterally



#### Discussion:

Congenital ocular malformations are uncommon entities. The primary tools utilized for diagnosis is ultrasound in conjunction with magnetic resonance imaging (MRI). Fetal MRI added within the diagnostic armamentarium is paramount in detecting cerebral and general anomalies; in addition it can give detailed information on the size and morphology of the eyeball. The full evaluation of ocular anomalies includes a detailed family / maternal/travel history, genetic amniocentesis for karyotype, fetal echocardiogram, and other analyses for infectious etiologies (inclusive of TORCH, Parvovirus, ZIKA). These serve to aid in a better understanding and correlation of the radiologic evaluation. In such cases, care is individualized and multiple specialists may need to be engaged. With severe malformations, termination of pregnancy must be proposed due to the risk of blindness and associated systemic or cerebral malformations.

#### Conclusion:

Early prenatal diagnosis of ocular malformations are of paramount importance as some entities like congenital cataracts require surgical interventions shortly post-birth; while other syndromes may require continued assessment by Pediatric ocular specialties well into childhood and beyond.

# Clinical Vignettes 6-10

## Poster 6

NYC  
HEALTH+  
HOSPITALS

Lincoln

### Prenatal diagnosis of cleft lip+palate: a case report

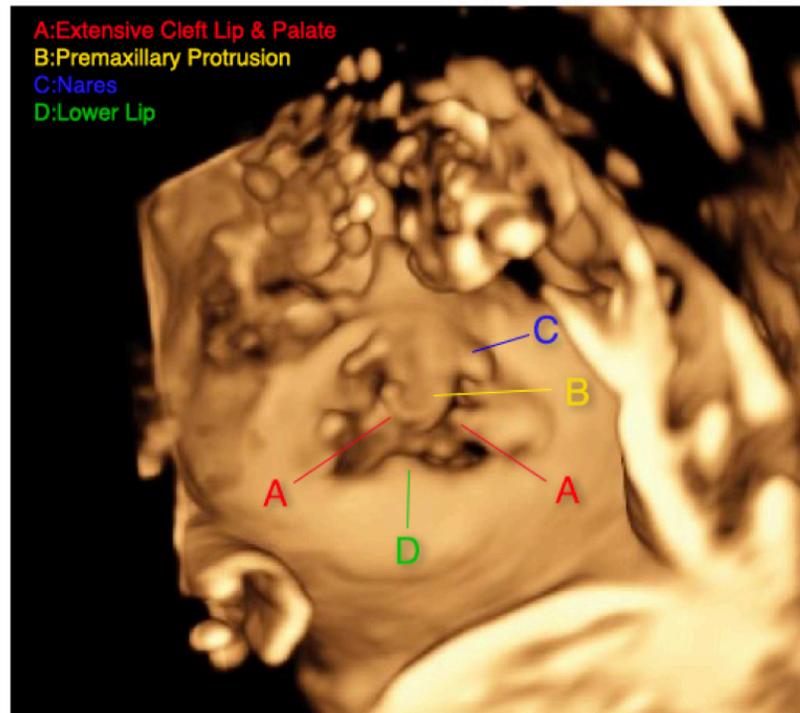
Israel Benjamin DO, Rochelle Johns MD, Giovanni Sisti MD, Jana Yancey RDMS, Andrej Bogojevic MD, Ronald Bainbridge MD, Kecia Gaither, MD MPH

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Weill  
Cornell  
Medicine

Figure 1



#### Introduction:

Orofacial clefts constitute one of the more common congenital structural anomalies, with a prevalence of 1:500- 1:1000 live births. With the advent of technological advances, 3D and 4D sonography has allowed for easier identification of clefting defects.

#### Case:

A 30 year old G6P3023 presented as a late registrant for a fetal anatomical sonographic evaluation at 29 3/7 weeks of pregnancy. The patient had a family history of autism; NIPT testing was negative for aneuploidy. The 2D and subsequent 3D ultrasound revealed fetal cleft lip and palate—no other anomalies were appreciated (Fig.1).

#### Outcome:

The infant was subsequently delivered at 39 0/7 weeks. Upon delivery findings of bilateral cleft lip and palate were observed along with additional midline defects. Chromosomal analysis of the newborn revealed a normal 46 XY karyotype. The infant had some initial feeding difficulties that improved after repair of the bilateral cleft lip. Preparations are currently being made for repair of cleft palate in Summer 2021.

#### Discussion:

Clinically, it is imperative to differentiate between the myriad types of orofacial clefts, due to the implications on fetal prognosis. Cleft lip and palate are craniofacial malformations that may occur together or separated; they can be isolated findings, or part of a genetic syndrome. For the aforementioned patient, incomplete ventral foreskin without hypospadias, 2 vessel cord, PFO vs very small ASD, and low normal LV systolic function were appreciated.

Findings on 2D and 3D ultrasonography have a high positive predictive value for the diagnosis of orofacial defects from the first trimester of pregnancy. The neonatal associated morbidity falls along a spectrum, pending the degree of malformation.

#### Conclusion:

Utilization of a multidisciplinary team approach is the standard of care and the foundation of management for patients so diagnosed with orofacial anomalies. Engagement with a multitude of specialists inclusive of Geneticists, Maternal Fetal Medicine Specialists, Neonatologists, Psychologists, Pediatric Oromaxillofacial Surgeons, and Social Services -- with delivery in a tertiary center-- are paramount to ensure a successful perinatal outcome.

# Clinical Vignettes 7-10

## Poster 7



### Pregnancy Complicated By Subdural Hematomas: A Case Report

**Rochelle Johns, MD,** Victor Sebastian Arruarana, MD, Ogochukwu Oseji, MD, Israel Benjamin, Torri Anderson, MD, Jiakai Ji., Rochelle Johns, MD, Felipe Mercado Olivares, MD, Jana Yancey RDMS, Andrej Bogojevic, MD, Kecia Gaither, MD MPH FACOG  
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#### ABSTRACT

Subdural hematoma (SDH) is caused by venous bleeding between the dura and arachnoid matter in the subdural space. Limited data exists on the incidence and prevalence of SDH due to the failure to diagnose this condition during mid trimester ultrasounds. Etiology of intrauterine SDH is unknown in many cases. Ultrasonography, along with confirmatory magnetic resonance imaging allows for higher diagnostic accuracy. We present a case of monochorionic diamniotic twins with abnormal neuroanatomy consistent with SDH.

#### CASE STUDY

A 25 year old G3P1 presented for an anatomical survey @ 18 5/7 weeks. Prenatal care was complicated by frequent admissions for hyperemesis gravidarum, and an abnormal maternal Quad screen for borderline ONTD. All other prenatal laboratory findings were normal. Sonographic findings noted a monochorionic diamniotic twin pregnancy. Twin B was noted to have massive ventriculomegaly. Patient was referred for a higher level of care for management. Upon transfer, @ 20 5/7 weeks, repeat ultrasound, MRI and genetic amniocentesis was undertaken; karyotypic analysis revealed two genetically normal males. MRI revealed: "Twin A - large bilateral supratentorial/ infratentorial subdural hematoma causing enlarged biparietal diameter/suspected hypertelorism; Twin B - severe ventriculomegaly with enlargement of the BPD. There is abnormal heterogeneity of the posterior fossa structures c/w subdural hematoma in the region with suspicion for cerebellar hypoplasia and hemorrhage. The patient underwent extensive counseling and opted for termination of pregnancy. She delivered both twins breech vaginally. She declined autopsy.

#### DISCUSSION

Fetal intracranial hemorrhage is a complication associated with significant fetal mortality and morbidity. Fetal subdural hematoma is a type of intracranial hemorrhage where blood collects between the dura and arachnoid matter and is extremely rare. While the underlying cause of SDH is often unidentified, maternal injury, maternal use of anticoagulants, maternal and/or fetal autoimmune thrombocytopenia and maternal Vitamin K deficiency caused by hyperemesis gravidarum, are among the more common causes.

Currently, ultrasound is the initial and principal screening imaging modality for detection and diagnosis of intrauterine subdural hematoma. MRI is additionally utilized to aid in more detailed imaging of cerebral architecture, showing more distinct boundaries between tissues of different echodensities compared to that obtained from ultrasound.

Upon diagnosis of fetal SDH, thorough counseling on the possible fetal and neonatal outcomes should be provided to the parents. As the data remains limited, along with the high likelihood of a poor prognosis, open discussion concerning termination is warranted.

Twin A



Supratentorial SDH

Infratentorial SDH

Twin B



Bilateral Ventriculomegaly

SDH of the posterior fossa

# Clinical Vignettes 8-10

## Poster 8



### Adding Life to Years or Years to Life? Successful Aging Goes Beyond Just Living Longer

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Division of Geriatrics, Montefiore Medical Center (Wakefield Campus), Bronx, NY  
(The authors of this abstract & poster have no financial disclosures)



#### Abstract

##### DISCLOSURES: NONE TO REPORT

##### Background:

Human life expectancy has increased over the years in most countries. Although longevity may be a goal to some, the quality of life and good health in old age may be even more important than the number of years lived for most individuals. Our case illustrates the point.

##### Case:

Ms. L.L., a 92 years old pleasant community female with T2 diabetes, hypertension and hyperlipidemia. she is independent for ADLs and IADLs. She cooks her meals, does household chores, shops and manages finances; she enjoys her activities. She is not depressed and smiles easily. Sleep and bowel habits are fine. She travels by subway to get her medicines and visits her physician. She is very involved in discussions with the doctor about her health care. She is in control of her life and happy. She uses a cane and lives with her younger sister with whom she has a good relationship and is her HCP. She has no falls or hospitalizations in 15 years. Mini-Cog score in the past was 5/5. She believes she has aged successfully; when asked, her response was 3 reasons: "because I work very hard; I'm always active; and I eat whatever I want!"

**Medications:** Amlodipine, Rosuvastatin, Hydrochlorothiazide, Atenolol, Losartan, Metformin, Vitamin D and Cyanocobalamin

**P/E:** BP: 129/73, HR 95, T: 97.7F, RR: 17, Weight: 122lb

**General appearance:** Looks happy, well appearing, talkative, in good mood. She is ADL's and IADL's independent

**Labs:** Hemoglobin: 13.9, Hematocrit: 41.9, MCV: 93.9, Platelets: 305, white blood cell count: 8.9, HA1C: 6.8%, Gluc:163, Creatinine: 1.0, BUN: 23, GFR:57, Na:137, K: 3.8, Protein Total:8.1

##### Discussion:

Population aging is an enormous public health issue and there is clear need for strategies to maximize opportunities for successful aging. Although no formal definition of successful aging exists, there is some agreement that it should include the absence disease and disability, the maintenance of high physical and cognitive function, and sustained engagement in social and productive activities. Aging is a lifetime process, an individual may age successfully just at one stage in their life. Health care providers must focus on promoting successful aging through implementation of strategies to maintain functional ability, physical and mental health and social support, with an advance directive. Our patient manifested good physical and cognitive health, was independent, had good quality of life, was adherent to lifestyle measures and medications and was happy.

##### Learning Points:

- Many older people consider themselves to have aged successfully; such individual opinions matter, even if providers of health care may not concur.
- Geriatric medicine practice must consider components beyond usual health care to promote successful aging and also address mental, social, spiritual and emotional support.

#### Introduction

- ♦ In general, successful aging can be defined as a complex and multidimensional concept, which principal goal is a disease and disability free life, with high physical and cognitive function and active engagement with life in old age.
- ♦ There are a few communities across the world where the model of successful aging is achieved considerably; these communities share many similarities in common and their members live longer, maintain a physical and cognitively active lifestyle, engage socially and are spiritually oriented.

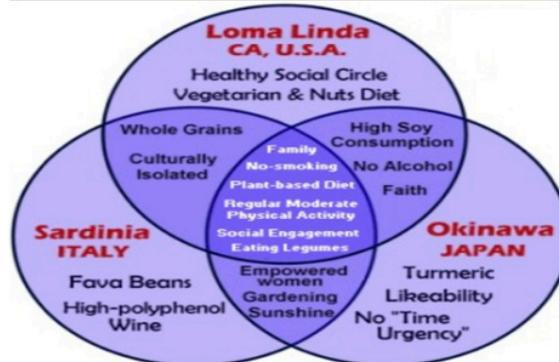
#### Case Description

- 92 years old lady from the community, with past medical history of T2DM, Hypertension, Left breast cancer S/p lumpectomy and radiotherapy. She is independent in ADL's and IADL's, she is not depressed and smiles easily and frequently, enjoys her daily activities, and is involved in discussions with her doctor about her health care. She is in control of her life; she lives with her sister and they have a good relationship.
- **Medications:** Amlodipine, Rosuvastatin, Hydrochlorothiazide, Atenolol, Losartan, Metformin, Vitamin D and Cyanocobalamin.
- **P/E:** BP: 129/73, HR 95, T: 97.7F, RR: 17, Weight: 122lb
- **General appearance:** Looks happy, well appearing, talkative, in good mood. She is ADL's and IADL's independent.
- **Neurological:** Alert and oriented x 4, Minicog: 5/5, Gait: assisted with cane.
- **Labs:** HA1C: 6.8%, Gluc:163, Creatinine: 1.0, BUN: 23, GFR:57, Na:137, K: 3.8, Protein Total:8.1
- **Hemoglobin:** 13.9, Hematocrit: 41.9, MCV: 93.9, Platelets: 305, white blood cell count: 8.9,

#### Rowe and Kahn's Successful Aging Model Revised by Crowther



#### The Blue Zones Shared Similarities



#### Discussion

- ♦ Population aging is increasing, and ageing is accompanied by an increased risk of disease and loss of functioning. This represent an enormous public health issue and there is a clear need for strategies to maximize opportunities for successful aging.
- ♦ To successfully age, achieving longevity is one factor, but accomplishing optimal longevity with maximal functional capacity is the real target.
- ♦ Aging successfully will be complex and dependent on the influence of multiple variables. For example, while environmental factors are determinants for quality of life, on the other hand, genetic factors play an important role in achieving longevity.
- ♦ To achieve successful aging, all aspects of the health of the elderly should be considered, this include physical, social, cognitive, emotional and spiritual aspects.
- ♦ There is no universally accepted definition of successful aging.
- ♦ The concept of successful aging depends on the cultural context of the population, therefore, we should take in account the cultural, social and religious conditions of each group.
- ♦ It has been presumed that three interactive features are necessary to achieve successful aging: absence of disease and disability, the maintenance of physical and cognitive function that promote well-being and connection with other people and involvement in productive activities. However we have to be aware that criteria such absence of disease or disability could be a very exclusive one, as the onset of chronic conditions and medical problems is a common occurrence in most of the older people.
- ♦ Health care professionals and community health supporters should implement resources for providing the grounds for successful aging in the community.
- ♦ Focusing on successful aging through the adoption of healthy lifestyle behaviors can help prevent and reduce age related problems, and consequently decrease the cost of disease burden in this period of life.
- ♦ The Blue Zones, or "longevity hot spots," are places scattered around the world, where the local citizens live past the 100 years, maintain a physically active lifestyle and are socially engaged. This places are Sardinia in Italy, Okinawa in Japan, Ikaria island in Greece, Loma Linda in California and Nicoya Peninsula in Costa Rica.
- ♦ Our patient manifested good physical and cognitive health, was independent, has a good quality of life, was adherent to lifestyle measures and medications and was happy.

#### Conclusions

- ♦ Most older adults can live longer and at the same time that continue to stay healthy, active and socially engaged.
- ♦ Achieving successful aging is a complex process influenced by environmental and genetic variables.
- ♦ Health care providers must consider components beyond usual health care to promote successful aging. The goal is to seek not immortality but a healthy quality of life with longer life.
- ♦ The Blue Zones could represent an ideal model for the study of communities achieving a successful longevity.

#### Bibliography

- ♦ The concept of Successful Aging: A Review Article, *Curr Aging Sci.* 2020 May; 13(1): 4-10.
- ♦ The Endocrinology of Aging: A Key to Longevity "Great Expectations" *Endocrine Practice*, Vol 23, Sept 2017

# Clinical Vignettes 9-10

## Poster 9



### Gastric ulcer penetration to the liver in a COVID-19 survivor



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Kate Steinberg MD<sup>1,4</sup>, Melanie Moses MD MPH<sup>3,4</sup>

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#### Learning Objective

- # 1 – Recognize gastric ulcer penetration without alarming acute abdomen
- # 2 – COVID-19 survivors may develop long-term gastrointestinal complications

#### Case presentation I.

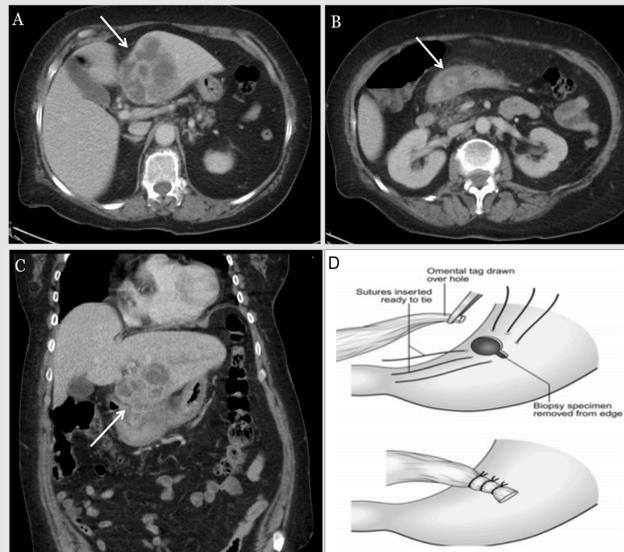


**1. Figure:** Chest X-ray of bilateral COVID-19 pneumonia

#### 1. Table: Laboratory results

LABORATORY RESULTS	NORMAL VALUES AND UNITS	MEASURED VALUES AND UNIT
White Blood Count	4.8-10.8 k/uL	18.6 k/uL
Hemoglobin	12.2-15.3 g/dl	10.5 g/dl
Hematocrit	36-45 %	33.8 %
Platelets	150-400 k/uL	427 k/uL
Aspartate Aminotransferase	<40 U/l	119 U/l
Alanine Transaminase	<30 U/l	91 U/l
Direct Bilirubin	<1.2 mg/dl	1.2 mg/dl
Total Bilirubin	<0.5 mg/dl	1.6 mg/dl

#### Case Presentation II.

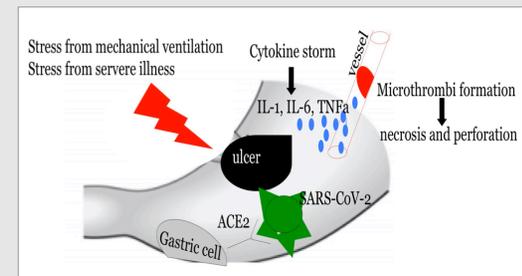


**2. Figure:** Abdominal CT revealed 6 x 7 x 6 cm hepatic abscess with gastrohepatic fistula secondary to penetrating gastric ulcer. Panel A: Lobulated complex hepatic abscess indicated by the white arrow on the axial CT image. Panel B: Perforated gastric ulcer indicated by the white arrow on the axial CT image. Panel C: Coronal image reveals the gastrohepatic fistula between the stomach and the liver indicated by the white arrow. Panel D: Pedicled omental flap repair of gastric perforation – ref: Weledji EP



**3. Figure on the left:** Upper GI series - single contrast with gastrografin – fluoroscopic imaging excluded leak

#### Impact/Discussion



**4. Figure:** Suggested mechanism of SARS-CoV-2 virus could directly and/or indirectly contributed to the development of gastric ulcer perforation

#### Conclusions

A growing body of literature reports GI symptoms and short-term complications related to COVID-19 disease. It is uncertain whether the formation of a gastric ulcer is directly related to inflammation caused by COVID-19. Overall, there is a need for further studies to clarify the long-term effects of COVID-19 infection on the GI system.

#### Acknowledgments

We would like to acknowledge the patient on whom the case report is based and who provided us written informed consent for publication. We would also like to express our gratitude to the Montefiore Medical Center Internal Medicine Residency Program at Wakefield to make this presentation happen.

#### Abstract, Videos and References



If you have questions, please email to [mszabari@montefiore.org](mailto:mszabari@montefiore.org)

# Clinical Vignettes 10-10

## Poster 10



### Aspirin for Thromboprophylaxis in the Peri-operative Management of Orthopedic Surgery in the Older Patient: Does it Work?

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(The authors of this abstract & poster have no financial disclosures)



#### Abstract

##### DISCLOSURES: NONE TO REPORT

##### Background

Thromboprophylaxis is often underused in older adults, perhaps due to overestimation of bleeding risk or underestimation of thromboembolic risk. In older people, major orthopedic surgery is associated with high risk of peri-operative venous thromboembolism (VTE). Insufficient thromboprophylaxis may be potentially lethal, although easily preventable.

##### Case

85 year old female with hypertension, type 2 diabetes mellitus, temporal arteritis on prednisone and methotrexate, aortic stenosis, mitral regurgitation s/p bioprostheses of aortic and mitral valve, chronic kidney disease, hypothyroidism, breast cancer s/p mastectomy and recent hip fracture surgery was on aspirin for thromboprophylaxis; she now presents with acute dyspnea and hypoxia. Her O2 saturation was 89% on room air, requiring supplemental oxygen. She was tachycardic on telemetry, afebrile, and normotensive. EKG: sinus rhythm with RBBB. Chest Xray: mild-moderate bilateral pleural effusions, more on left. CT angiogram confirmed segmental pulmonary embolus, right lower lobe. Lower extremity dopplers were negative for deep venous thrombosis (DVT). She was started on heparin drip, and later transitioned to apixaban 5 mg bid for 3 months in the setting of provoked PE after ORIF.

##### Discussion

Older adults undergoing surgery are vulnerable to DVT and pulmonary embolism (PE), the risk increasing with additional comorbidities in the patient. Inadequate thromboprophylaxis in the peri-operative period increases likelihood of a thromboembolic event and PE. In such patient mortality is high. The rates of post-op fatal PE in anticoagulated patients range from 0.04% to 1.0%. Based on the American Academy of Orthopaedic Surgeons, there is skepticism regarding use of ASA as a sole means of prophylaxis for major orthopedic surgery. The 9th American College of Chest Physicians' (ACCP) guidelines of 2012 suggested inadequate data was available for the effectiveness of aspirin for prevention of PE for orthopedic surgery. Current literature is ambiguous regarding the use of aspirin for DVT prophylaxis after orthopedic surgery. Updated guidelines from ACCP are under way.

##### Lesson Learnt

- Aspirin is inferior to unfractionated heparin, low molecular wt. heparin, vitamin K antagonists for thromboprophylaxis in orthopedic surgery and should not be used as first line therapy.
- Adequate thromboprophylaxis must be instituted following orthopedic surgery, as older adults are at high thromboembolic risk, but preventable with prophylaxis.

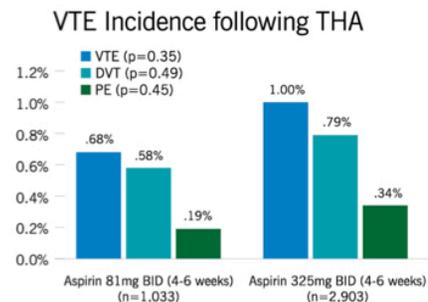
#### Introduction

- Major orthopedic surgery, mainly entailing hip fracture surgery, hip and knee arthroplasty, is associated with significant morbidity and mortality, which are especially attributable to the high risk of postoperative VTE
- The risk of VTE during and after major orthopedic surgery approximates 50-80% in patients with no thromboprophylaxis, and persists for up to 3 to 6 months after surgery.
- Older adults are a patient population at high thromboembolic risk, and also high hemorrhagic risk.

#### Case Description

- 85 year old female with hypertension, type 2 diabetes mellitus, temporal arteritis on prednisone and methotrexate, aortic stenosis, mitral regurgitation s/p bioprostheses of aortic and mitral valve, chronic kidney disease, hypothyroidism, breast cancer s/p mastectomy and recent hip fracture surgery was on aspirin for thromboprophylaxis; she now presents with acute dyspnea and hypoxia.
- Medications:** Aspirin, Metoprolol, Diltiazem, Lasix, Basalgar, Synthroid, Leucovorin, Methotrexate, Prednisone, Folic acid, Ferrous sulfate, Protonix, Vitamin D, Calcium.
- PE:** BP: 105/53, Pulse: 92, RR: 18, Temp: 97.8 O2 sat: 89% on room air, improved to 96% on 2L NC
- General appearance:** awake, alert, sitting in wheel chair, oxygen via nasal cannula, mild respiratory distress
- Labs/Imaging:** CTPE with segmental PE in the RLL with a/o right heart strain. labs notable for leukocytosis to 12, BNP 13K, troponin HS 55->47, D-dimer 3.98, procal 0.16. EKG with NSR with RBBB and LAFB, unchanged from prior. CXR with bilateral L>R pleural effusions  
LE dopplers negative for DVT
- AP:** She was started on heparin drip and transitioned to apixaban prior to discharge

Figure 1: Incidence of venous thromboembolism (VTE), deep venous thrombosis (DVT) and pulmonary embolism (PE) within 90 days after total hip arthroplasty (THA).



#### Levels of VTE risk and recommendations for orthopedic surgery

Risk group	Procedures	Thromboprophylaxis
Low	Surgery of upper extremity, Surgery of fracture distal to the knee	Early ambulation
Moderate	Vertebral surgery	GCS or IPC
High	Total hip replacement, Total knee replacement, Hip fracture surgery	LMWH, Warfarin, or Fondaparinux; IPC*

\*Recommended in patients with a risk of bleeding; consider switching to anticoagulants when the bleeding risk abates.

VTE, venous thromboembolism; GCS, graduated compression stockings; IPC, intermittent pneumatic compression; LMWH, low-molecular-weight heparin; LDUH, low-dose unfractionated heparin.

#### Discussion

- Postoperative VTE is attributable to significant morbidity and mortality in orthopedic surgery, most especially in the older population.
- Such a considerable risk is mainly due to a procoagulant state sustained by several important mechanisms, including massive release of procoagulants from tissue and bone damage, blood vessel injury, reduced venous emptying, perioperative immobilization and cement polymerization, among others.
- The risk of VTE during and after major orthopedic surgery approximates 50-80% in patients with no thromboprophylaxis, and persists for up to 3 to 6 months after surgery.
- The anticoagulant or antithrombotic armamentarium entails several anticoagulants such as heparin, coumadins, fondaparinux, and the recently developed DOACs inhibiting either activated factor Xa (i.e., rivaroxaban, apixaban, edoxaban) or thrombin (i.e., dabigatran), as well as aspirin, i.e., the oldest antiplatelet drug to be ever discovered and used in clinical practice.
- The current guidelines are not in complete agreement regarding the choice of the ideal thromboprophylaxis, since some consider aspirin, and some discourage it.
- There is a general tendency among physicians to underuse anticoagulants in older people, probably both because of underestimation of thromboembolic risk and overestimation of bleeding risk.
- Following orthopedic surgery, VTE prophylaxis is ideally administered for about 35 days
- The main indications for anticoagulation are venous thromboembolism (VTE) prophylaxis in medical and surgical settings, VTE treatment, atrial fibrillation (AF) and valvular heart disease.
- Assessing the benefit-risk ratio of anticoagulation is one of the most challenging issues in the individual elderly patient, patients at highest hemorrhagic risk often being those who would have the greatest benefit from anticoagulants.
- Some specific considerations are of utmost importance when using anticoagulants in the elderly to maximize safety of these treatments, including decreased renal function, co-morbidities and risk of falls, altered pharmacodynamics of anticoagulants especially VKAs, association with antiplatelet agents, patient education.
- Newer anticoagulants that are currently under study could simplify the VTE management and increase the safety of anticoagulation in the future.

#### Conclusions

- Aspirin is inferior to unfractionated heparin, low molecular wt. heparin, and vitamin K antagonists for thromboprophylaxis following orthopedic surgery and should not be used as first line therapy.
- Adequate thromboprophylaxis must be instituted following orthopedic surgery, as older adults are at high thromboembolic risk, a risk that is preventable with prophylaxis.
- Prophylaxis must be instituted in settings without contraindications
- The current guidelines for VTE prophylaxis after orthopedic surgery are several years old and are due for revision

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- Fleivas DA et al. Thromboembolism prophylaxis in orthopaedics: an update. EFORT Open Rev; 2018; 3:136-148

# Research 1-8

## Poster 1

### Saucerization combined with Meniscus Repair is a Safe and Effective Technique for the Treatment of Symptomatic Discoid Meniscus



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#### BACKGROUND

Gold standard treatment for symptomatic discoid meniscus in pediatric and adolescent population has yet to be proved. While total meniscectomy has been historically performed with low reoperation rates, long-term studies has shown poor outcomes with high rates of early osteoarthritis. Meniscus preservation surgery, on the other hand, has led to better long-term outcomes, but higher reoperation and complications rates.

#### AIM

The purpose of this study is to describe our outcomes with saucerization and repair of symptomatic discoid meniscus in pediatric and adolescent population.

#### METHODS

An IRB approved retrospective review was performed, in a single institution, to analyze consecutive patients with less than 20 years of age who underwent arthroscopic treatment for symptomatic discoid meniscus from 2014-2020. All patients participated in the same postoperative rehabilitation protocol with a minimum follow-up of 1 year. Data collection included demographics, tear location, repair type, time from injury to surgery, readmission, reoperation and complications rate. Patient reported outcomes (PRO) was electronically recorded including Tegner-Lysholm, IKDC and KOOS for symptom, pain, ADL, sport and QOL.

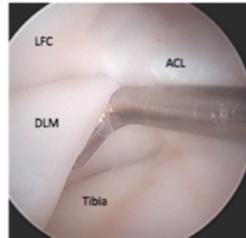
#### STUDY POPULATION

Thirty-eight patients underwent arthroscopic surgery for symptomatic discoid meniscus including 13 females and 25 males with a mean age at surgery of 12 years (range 3 to 18y). Twenty-four (63.2%) were skeletally immature. Time from injury to surgery was 218 days on average.

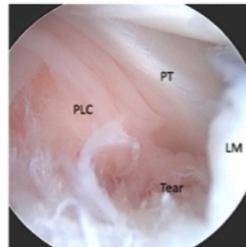
	N=38
Gender	13 (F) 25 (M)
Age @ Surgery, yrs	12 (3-18)
Skeletally immature	24 (63.2%)
Time from injury to surgery(days)	218

#### CASE & SURGICAL TECHNIQUE

Case: 3yo male with right knee pain and extension deficit due to lateral meniscus discoid.



**Fig.1** Right Knee Anteromedial arthroscopic view  
**LFC** – Lateral Femoral Condyle,  
**ACL**- Anterior Cruciate Ligament,  
**DLM**- Discoid Lateral Meniscus



**Fig.2** Right Knee Anterolateral arthroscopic view  
**PT**-Popliteus Tendon,  
**PLC**- Posterolateral Capsule  
**LM**- Lateral Meniscus



**Fig.3** Right Knee Anterolateral arthroscopic view of Saucerization combined with meniscus repair

#### RESULTS

Majority of the lesions were on the lateral meniscus (93.3%) with 13 located on the anterior horn (43.3%), 10 on the posterior horn (33.3%), 6 on both anterior and posterior horn (20%) and 1 on the body only. Arthroscopic saucerization and meniscus repair were performed in 25 patients (65.8%), saucerization only in 7 (18.4%), repair only in 3 (7.9%) and no intervention in 3 (7.9%). Two patients (5.2%) had meniscus retear needing revision surgery, 1 had previous saucerization only and 1 had saucerization and repair. Both mechanisms were traumatic. There were no neurovascular complications. All patients reported good clinical outcomes post-operatively including Tegner-Lysholm (85.9), IKDC (77.6), KOOS symptom (82.8), KOOS pain (87.5), KOOSADL (94.5), KOOS sport (80.6), and KOOS QOL (68.8).

Tear pattern	
Lateral meniscus	36 (94.7%)
Location	
Anterior horn	13 (43.3%)
Posterior horn	10(33.3%)
Both	6 (20%)

Type of treatment	
Arthroscopic saucerization + meniscus repair	25(65.8%)
Saucerization only	7(18.4%)
Repair only	3(7.9%)
Other	3(7.9%)

Patient Reported Outcomes	Score
Tegner-Lysholm	85.9
IKDC	77.6
KOOS symptom	82.8
KOOS ADL	94.5
KOOS sport	80.6
QOL	68.8

#### CONCLUSION

Based on the low complication rate and good clinical outcomes reported in our cohort, saucerization combined with meniscus repair demonstrated to be a safe and efficient procedure to treat symptomatic discoid meniscus in pediatric and adolescent population.



# Can We Prevent Opioid Overuse in Adolescents Undergoing Surgery for Idiopathic Scoliosis ?



Ari J. Holtzman, MD, David Ge, MD, Zachary T. Sharfman, MD, Regina Hanstein, PhD, Roshan Patel, MD, Jacob Schulz, MD, and Jaime A. Gomez, MD

### Background

Fusion procedures for scoliosis are known to cause significant postoperative pain.

Pain levels can be above baseline for up to 6 months postoperatively<sup>1</sup>

Standardized postoperative pain protocols have been shown to decrease inpatient pain and length of stay<sup>2-3</sup>

### Aim

To investigate whether an inpatient pain-management protocol would safely decrease post-discharge opioid use and pain after posterior spinal fusion (PSF) in patients with adolescent idiopathic scoliosis (AIS).

### Methods

Retrospective chart review of AIS patients who underwent PSF at a single institution from 2013-2019.

Patients were categorized into two groups:

Pre-Group: PSF before pain protocol in 2017.

Post-Group: PSF after pain protocol.

The pain protocol included:

Postoperative (POD) days 0-1: patient-controlled analgesia (PCA), diazepam, acetaminophen, and ketorolac.

POD2: Discontinuation of IV, PO acetaminophen, ibuprofen diazepam and oxycodone as needed.

Primary outcome:

Amount of opioids prescribed at discharge in morphine milligram equivalents (MME).

Requests for refills within the first 6 months post-operatively.

Secondary outcomes:

length of stay, emergency department (ED) visits for pain, and scoliosis research society (SRS)-30 questionnaire scores at 6 weeks and 6 months post-operatively.

### Results

Demographics, N=228	
Anesthesia Protocol	104 (46%) old, 124 (54%) new
Gender	173 F (76%), 55 M (24%)
Ethnicity	
Black	86 (37.7%)
Hispanic	92 (40.4%)
Hispanic-Black	2 (0.9%)
White	17 (7.5%)
Other	24 (10.5%)
Unknown/Declined	7 (3.1%)
Age	14.9 ± 2.1, Range 10.8 to 19.9
BMI, pre-op	22.6 ± 5.6, Range 9.7 to 60
BMI for age percentile	62.7 ± 30.2, Range 1 to 99
BMI	
Underweight	14 (6.2%)
Healthy	136 (59.9%)
Overweight	38 (16.7%)
Obese	39 (17.2%)
Cobb Angle, pre-op	57.2 ± 10.6, Range 35 to 98.8
Lenke	
1	122 (53.5%)
2	40 (17.5%)
3	12 (5.3%)
4	8 (3.5%)
5	24 (10.5%)
6	15 (6.6%)
N/A	7 (3.1%)
ASA	
1	78 (34.2%)
2	139 (61%)
3	9 (3.9%)
N/A	2 (0.9%)

Parameters	Old Protocol N=104	New Protocol N=124	P-Value
Age, mean ± SD	14.7 ± 2.0	15.1 ± 2.1	0.103
Gender, female, n (%)	83 (80)	90 (73)	0.218
Ethnicity, n (%)			0.122
Black	39 (37.5)	47 (37.9)	
Hispanic	37 (35.6)	55 (44.4)	
Hispanic-Black	1 (1)	1 (0.8)	
White	8 (7.7)	9 (7.3)	
Other	17 (16.3)	7 (5.6)	
Unknown/Declined	2 (1.9)	5 (4)	
BMI, pre-op, median (IQR)	21.2 (18.6, 24.8)	21.3 (18.9, 24.5)	0.888
BMI for age percentile, pre-op, median (IQR)	66 (46, 90)	73 (39.5, 90)	0.802
Cobb Angle, pre-op, median (IQR)	54.4 (46.3, 60.3)	57 (53, 65)	0.003
ASA			0.743
1	37 (36.3)	41 (33.1)	
2	62 (60.8)	77 (62.1)	
3	3 (2.9)	6 (4.8)	
# Levels Instrumented, median (IQR)	12 (10.5, 13)	11 (10, 12.5)	0.053
# Patients with post-op Transfusion, n (%)	38 (37)	28 (29)	<0.028
# Patients with Transfusion, n (%)	61 (59)	40 (32)	<0.0005
Length of Stay, median (IQR)	5 (4, 6)	4 (3, 5)	<0.0005
MME max daily dose, median (IQR)	45 (30, 45)	30 (22.5, 45)	0.002
Total MME prescribed, median (IQR)	90 (37.5, 150)	75 (50, 112.5)	0.031
# Patients with a Refill, n (%)	10 (9.6)	18 (14.5)	0.314
# Patients with an ED visit, n (%)	11 (10.6)	18 (14.5)	0.428
# Patients with a Readmission, n (%)	4 (3.8)	5 (4)	1.000

SRS Scores	Old Protocol N=104	New Protocol N=124	P-Value
<b>Pre-operative</b>			
Pain	4.2 (3.4, 4.9)	4 (3.4, 4.6)	0.218
Function	4.0 (3.5, 4.4)	4 (3.6, 4.4)	0.974
Self-Image	3.5 (3, 3.8)	3.3 (2.8, 3.7)	0.198
Mental Health	4 (3.4, 4.4)	4 (3.4, 4.6)	0.442
Satisfaction	3.5 (3, 4.5)	3 (3, 4)	0.004
Total	3.8 (3.4, 4.2)	3.8 (3.3, 4.1)	0.679
VAS	3 (3, 6.5)	5 (4, 6.3)	0.979
<b>6-weeks post-operative</b>			
Pain	4.0 (3.5, 4.2)	3.9 (3.3, 4.3)	0.759
Function	3.0 (2.9, 3.1)	3.1 (2.7, 3.4)	0.750
Self-Image	4.3 (3.9, 4.4)	4 (3.7, 4.45)	0.793
Mental Health	4.2 (4, 4.6)	4.2 (3.6, 4.6)	0.954
Satisfaction	4.7 (4.3, 5)	4.3 (3.7, 5)	0.314
Total	3.8 (3.6, 4.1)	3.9 (3.5, 4.1)	0.795
VAS		4 (0, 6)	0.830
<b>6-months post-operative</b>			
Pain	4.7 (4.0, 4.8)	4.3 (3.8, 4.7)	0.347
Function	3.9 (3.3, 4.3)	3.6 (3.2, 3.9)	0.248
Self-Image	4.1 (3.9, 4.4)	4.1 (3.8, 4.6)	0.990
Mental Health	4.4 (4, 4.6)	4.2 (3.8, 4.6)	0.579
Satisfaction	4.7 (4.3, 5)	4.7 (4, 5)	0.273
Total	4.3 (4, 4.4)	4.1 (3.8, 4.4)	0.249
VAS	4 (2, 5.5)	4 (0.5, 6)	1.000

228 patient included for analysis  
104 PSF patients in Pre-group  
124 patients in Post-group

No significant differences in age, gender, ethnicity, BMI, comorbidities by American society of anesthesiologist (ASA) and number of instrumented levels were between groups (p≥0.05).

Post-group had larger median pre-operative scoliosis curves (57° vs 54.4°, p=0.003), (p≥0.05)

Length of stay was shorter in the Post-group (median 4 vs 5 days, p<0.005).

The Post-group was discharged with significantly less opioids (median 75 MME vs 90 MME, p=0.031) and lower median maximum daily opioid dose than the Pre-group (30 MME vs 45 MME, p=0.002).

There was no difference in number of opioid refills (p=0.248), ED visits for pain (p=0.314)

There was no difference in SRS-30 pain scores at 6 weeks or 6 months postoperatively between groups (Pre- vs Post group: 6 weeks 3.9 vs 4.0, p=0.759, 6 months 4.3 vs 4.7, p=0.347).

### Conclusions

Inpatient pain-management protocol was associated with significantly less prescribed opioids in patients after discharge.

Patients had similar pain scores on post-operative visits with no increase in ED visits.

Prescribing only 10 doses of 5mg oxycodone tablets for discharge after scoliosis fusion is safe and effective for pain control and will help decrease opioid use.

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# Research 3-8

## Poster 3



### Correction of Leg Length Discrepancy (LLD): Tension-Band Plating versus Percutaneous Trans-epiphyseal Screws

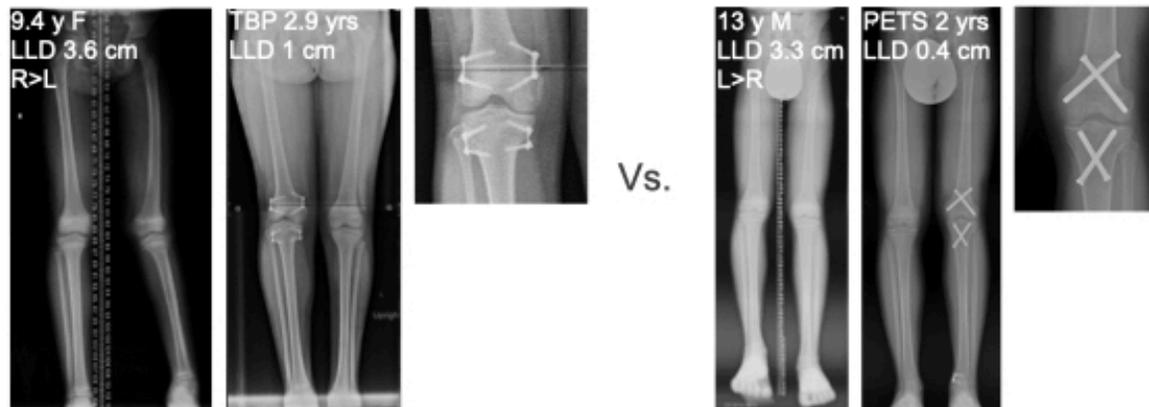


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#### Background

Percutaneous epiphysiodesis using tension band plating (TBP) or transphyseal screws (PETS) are commonly used to treat LLD of more than 2cm.



**Objective** Compare the efficacy and outcomes between TBP and PETS for correction of LLD.

#### Study Design & Methods

Retrospective study, June 2008 to December 2018

27 patients, average age at surgery was 12 ±1.9 years

47 surgeries with either TBP (24 femur/tibia, 17 limbs) or PETS (23 femur/tibia, 15 limbs)

Minimum follow-up to completion of epiphysiodesis treatment, defined as the point of skeletal maturity or removal of hardware (ROH)

Data collected: • Radiographic parameters: LLD, bone length discrepancy (BLD), angular deformity (AD) • Complications

# Research 4-8

## Poster 4



### Correction of Leg Length Discrepancy (LLD): Tension-Band Plating versus Percutaneous Trans-epiphyseal Screws

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Eric D. Fornari MD<sup>1</sup>, Jaime A Gomez MD<sup>1</sup>, Melinda S Sharkey MD<sup>1</sup>, Jacob F Schulz MD<sup>1</sup>

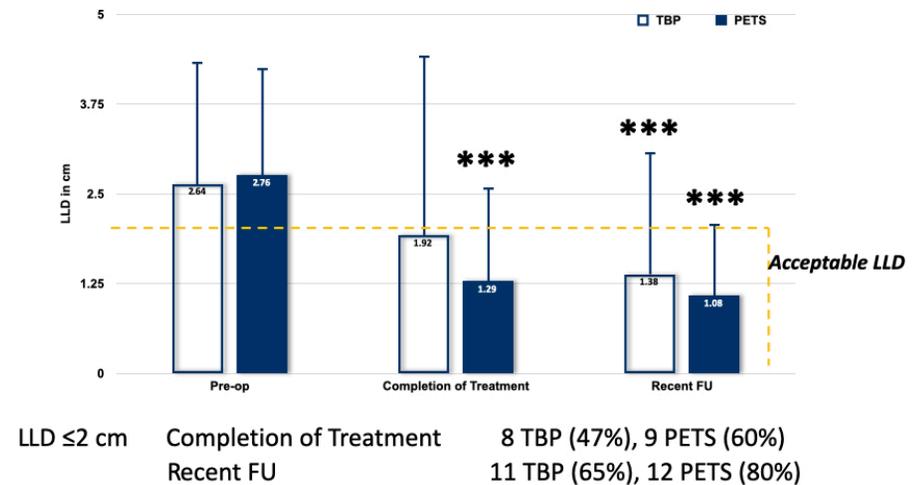


#### Demographics & Epiphysiodesis

Demographic and Treatment-related Parameters	TBP *Patients=14 # Limbs=17 ^Surgeries=24	PETS *Patients=13 # Limbs=15 ^Surgeries=23	P-Value
Age at Surgery <sup>#</sup> , yrs	11.0 ± 1.7	13.1 ± 1.3	<0.005
Growth Remaining at Surgery <sup>#</sup> , yrs	3.9 ± 2.2	2.0 ± 1.4	0.007
Operative Time <sup>#</sup> , minutes	84.9 ± 32	62.9 ± 26	0.047
Length of stay <sup>#</sup> , days	2.04 ± 1.1	1.07 ± 0.9	0.014
Time to activities <sup>#</sup> , months	2.8 ± 2.1	1.4 ± 0.7	0.043
Length of Treatment <sup>^</sup> , months	23.5 (16.5, 35)	24 (11, 25.5)	0.132
Follow-Up <sup>#</sup> , yrs	5.4 ± 2.9	2.5 ± 1.1	0.001

*Data is shown as mean ± SD, median (IQR) or N (%)*

#### LLD



#### Complications

- 11 limbs treated with TBP (65%) and 3 limbs treated with PETS (20%) returned to the OR to correct persistent LLD and AD (P=0.016). However, logistic regression adjusted for age at surgery did not reveal that TBP was significantly associated with revision surgery (OR = 3.98, 95% CI 0.63 - 26.20; p=0.142).
- Overcorrection occurred in 1 limb after TBP of femur and tibia
- Rebound overgrowth occurred in 1 limb after removal of tibial TBP

## Conclusions

Both, TBP and PETS, decreased LLD at final follow up successfully. There were no significant differences in the length of the discrepancy corrected. There were no significant differences in complications or need for revision surgeries. PETS was associated with shorter operative time, shorter hospital-stay and faster return to pre-operative function.

# Research 5-8

## Poster 5

Montefiore

### Impact of the COVID-19 Pandemic on Quantity and Characteristics of Ophthalmology Consults

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#### Purpose

- To examine how the quantity and characteristics of ophthalmology consults at a New York City hospital system changed during its COVID-19 pandemic peak.

#### Methods

- In an IRB approved, HIPAA compliant retrospective, comparative chart review study, ophthalmology (initial, follow-up, and electronic) consult notes from February to May 2019 were compared to those in February to May 2020. Statistical comparisons between 2019 and 2020 were made using T-tests and Fisher's exact tests.

#### Results

- Of 2,215 notes analyzed, 1,374 (62%) were from 2019 and 841 (38%) were from 2020 ( $p=0.0002$ ).
- Baseline characteristics between groups, including chronic medical conditions, did not differ significantly. In 2019, 41% of patients had a primary hospital diagnosis related to ophthalmology, whereas in 2020 this decreased to 32% ( $p=0.002$ ). In 2019, 7.5% of patients were on ventilators; this increased in 2020 to 10.8% ( $p=0.035$ ).
- Top reasons for consult requests were stable between years: eye pain/pressure (16.4%, 14.1%,  $p=0.79$ ), trauma (13.1%, 13.7%,  $p=1$ ), and blurry vision (12.9%, 11.2%,  $p=0.85$ ) (Fig.1). After evaluation, the most common diagnoses in 2019 were trauma (14.0%) and glaucoma (10.9%). In 2020, they were trauma (15.2%) and retinopathy of prematurity (11.2%).

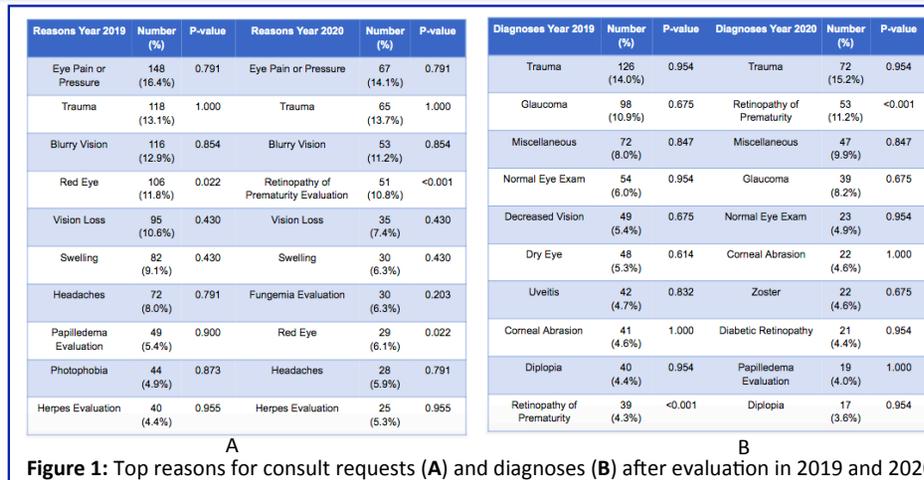


Figure 1: Top reasons for consult requests (A) and diagnoses (B) after evaluation in 2019 and 2020.



Figure 2: Total and e-consult notes per week in 2019 and 2020.

#### Results (Continued)

- Within 2020, the number of consults decreased compared to the previous week at the end of February (-47.5%) and in mid-March (-44.1%) (Fig.2).
- In 2020, 22.5% of all consults were COVID tested and 2.4% were positive within 2 weeks of in-person evaluation (relevant for exposure risk).
- In 2020, 1.8% of consults were in a newly available format, the e-consult (telephone visit).

#### Conclusions

- At the height of its pandemic on April 12<sup>th</sup> 2020, this hospital had 2,208 patients admitted for COVID care.
- Though only 2.4% of consult patients tested COVID positive, this likely reflects the limited availability of tests at that time.
- The majority (61%) of miscellaneous diagnoses were eye exams requested by primary teams to identify ocular manifestations of a wide variety of systemic illnesses (Wilson's Disease, Tuberculosis, Autoimmune Diseases, and Congenital Syndromes).
- E-consults accounted for a small fraction (1.8%) of total consults, likely reflecting a lack of primary team awareness of the new modality in 2020 as well as ophthalmologists requiring visual examination on a microscopic scale.
- Though the number of patients admitted for primarily ophthalmological care decreased significantly between the years, there were still over 150 patients requiring inpatient management of ophthalmologic diagnoses in 2020. The fact that this drop was not greater suggests the crucial role ophthalmologists continue to play even during a respiratory illness pandemic.

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# Research 6-8

## Poster 6



### COLORECTAL CANCER (CRC) AT JACOBI MEDICAL CENTER AND NORTH CENTRAL BRONX HOSPITAL: INTERIM ANALYSIS

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#### Background

Despite great advances in the management of CRC, including prevention, the disease and its attendant morbidity and mortality persist. Obstacles to improvement may be related to the disease e.g., rapid disease progression leading to interval cancers, the health care system, e.g., lack of access to CRC screening, or to the patient, e.g., non-adherence to CRC screening. We examined the obstacles to optimal CRC screening via colonoscopy in two hospitals serving disadvantaged populations in the Bronx.

#### Methods

A de-identified database was constructed containing all patients with CRC who were treated at Jacobi Medical Center and North Central Bronx Hospital since January 1, 2016. This was a program improvement project and IRB approval was not obtained. Pertinent demographic and clinical information were extracted. Special attention was placed on the presence or absence of prior CRC screening or primary care at NYC H+H and other hospitals, the presence of GI signs or symptoms, the presence of interval cancers (those developing within 3 years of a completed colonoscopy), and the proportion of cancers occurring outside the usual CRC screening intervals, <50 or >75 years of age. Data were analyzed with reference to literature norms.

#### Results

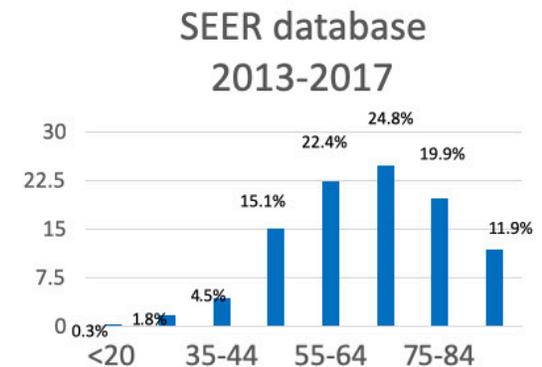
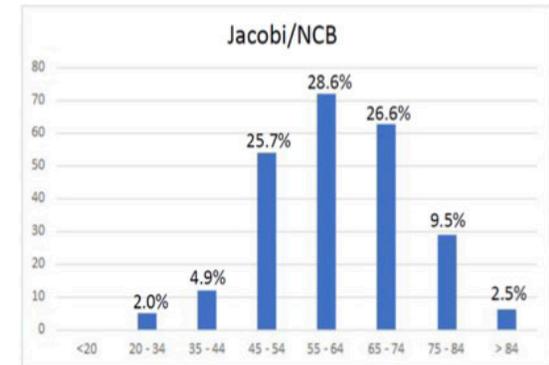
246 patients were included in the database. Seventy nine percent were African American or Hispanic in origin and median age was 61 years (range 23-95). Eighty percent of patients were symptomatic at the time of diagnosis. Only 7.5% of CRC patients had evidence of prior screening procedures. Of the 14 with prior CRC screening, none were interval cancers. The proportion of cases <50 years of age was similar to while the proportion >75 was lower than published values (SEER database).

#### Discussion

In this retrospective study of CRC screening in disadvantaged populations in the Bronx, a lack of adherence to CRC screening appears to be the major obstacle to disease control. Many patients are estranged from the health care system and are susceptible to multiple preventable comorbidities. Unless they can be educated and convinced of the benefits of CRC screening, other process improvements, especially those related to endoscope technology, will be ineffective in reducing CRC incidence, morbidity, and mortality.

We conclude that non-adherence to screening is the major contributor to CRC persistence in inner city neighborhoods in the Bronx.

#### Figures



# Research 7-8

## Poster 7

### Contiguous osteomyelitis of distal extremities in children

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#### Introduction:

- In previously healthy children, most cases of osteomyelitis are hematogenous.
- Non-hematogenous osteomyelitis - contiguous spread of soft tissue infection or direct inoculation of infection into bone from trauma.
- Contiguous osteomyelitis (COM) of distal extremities in children is not well studied.

#### Objective:

- To evaluate the burden and features of underlying osteomyelitis in pediatric patients with cellulitis or abscess of hands and feet.

#### Methods:

- Children, aged 0 to 18 years, treated from 2009 to 2019 for cellulitis/abscess of the hands/feet, who either had a Magnetic Resonance Imaging (MRI) at presentation, or a Roentgenogram at  $\geq 10$  days after symptom onset
- Imaging ordered based on the treating physician's clinical judgment.
- Definition of COM - MRI findings of both hypo-intense marrow on T1-weighted images and hyper-intense marrow on T2-weighted images, with continuity of soft tissue abnormality; or with findings of periosteal reaction, cortical erosion or bone lucency on Xray.
- Two-tailed T-test was used to compare patients with and without COM. P-value  $< .05$  deemed statistically significant

#### Results:

- 20 of 41 patients (48.8%) with abscess/cellulitis of distal extremities diagnosed with underlying COM - 16 by MRI, and 4 by X-ray.
- Patients with osteomyelitis tended to be older.
- All patients except 1 had preceding trauma
- Most common mechanism among those with osteomyelitis - contusion/crush.
- Most common location - phalangeal bone.
- The two groups - no difference in the time from trauma-to-presentation, treatment with antibiotics for  $> 48$  hours prior to admission, abscess vs. cellulitis, location of infection, and presence of fever or elevated WBC count or CRP (Tables 1 & 2).
- Staphylococcus aureus was the most common cause of infection among the patients with COM. Just less than half of the patients with COM had mixed organism infection (Table 3).

**Table 1. Characteristics of the 41 patients with abscess/cellulitis of the hands or feet.**

Abscess and/or cellulitis cases	Patients with osteomyelitis	Patients without osteomyelitis	P value
Total # of patients	20	21	-
Age (years), median & range	15 (1 - 18)	10 (1 - 18)	-
Age 10 years or younger	5, 25%	11, 52.4%	0.1
Male, NR, %	16, 80%	14, 66.7%	0.5
Patients with preceding trauma, NR, %	19	21	-
- Abrasion/Laceration	2, 10.5%	6, 28.6%	0.2
- Nail biting/ingrowing toe	5, 26.3%	3, 14.3%	0.4
- Animal/Human bite	2, 10.5%	1, 4.8%	0.6
- Contusion/Crush Injury	7, 36.8%	5, 23.8%	0.5
- Other*	3, 15.8%	6, 28.6%	0.5
# of days/weeks from trauma to infection, median & range	7 (1 day to > 3 weeks)	5 (1 day to > 3 weeks)	-
Patients with $< 5$ days from trauma to presentation, NR, %	9, 47.4%	11, 52.4%	1.0
Patients treated with antibiotics for $> 48$ h prior to admission, NR, %	4, 21.0%	3, 14.3%	0.7
location of infection, NR, %			
- Upper extremity	11, 55.0%	9, 42.9%	0.5
- lower extremity	9, 45.0%	12, 57.1%	0.5
Soft tissue infection			
Abscess, NR, %	12, 60%	12, 57.1%	1.0
Cellulitis, NR, %	8, 40%	9, 42.9%	1.0
Patients with $T^2 \geq 100.4\mu$ , NR, %	3, 15.0%	4, 19.0%	0.5
Patients with WBC count, NR, %	19, 95.0%	21, 100%	0.5
Patients with WBC count $> 15.0 \times 10^9/L$ , NR, %	3, 15.8%	5, 23.8%	0.7
Patients with CRP value, NR, %	17, 85.0%	11, 52.4%	0.04
Patients with CRP $> 10$ mg/dL, NR, %	7, 41.2%	1, 9.1%	0.1
Patients with wound culture, NR, %	14, 70.0%	15, 71.4%	1.0
Patients with (+) wound culture, NR, %	11, 78.6%	15, 100%	0.1
- MRSA, NR, %	3, 27.3%	9, 60.0%	0.1
Patients with blood c/s done NR, %	16, 80.0%	20, 95.2%	0.2
Patients with (+) blood c/s, NR, %	1 (MSSA), 6.2%	1 (MRSA), 5%	1.0
Imaging, NR, %			
- MRI	16, 80%	16, 76.2%	1.0
- Xray @ $\geq 10$ days of infection	4, 20%	5, 23.8%	1.0

\*Other: insect bite- 2, excoriation (scabies)- 1, maceration- 3, burn wound- 1, post-manicure- 1, nail deformation- 1  
 \*MRSA: Methicillin Resistant Staphylococcus aureus  
 \*MSSA: Methicillin Sensitive Staphylococcus aureus  
 WBC: White blood cell count, CRP: C-reactive protein, c/s: Culture and Sensitivity

**Table 2. Location of infection in patients with Contiguous osteomyelitis.**

Osteomyelitis cases, N = 20	Upper extremity	Lower extremity	P value
# of patients, %	11, 55.0%	9, 45.0%	-
Osteomyelitis of the Phalanx bone (finger or toe), NR, %	9, 81.8%	6, 66.7%	0.6
Osteomyelitis of the Metacarpal or Metatarsal bone, NR, %	2, 18.2%	3, 33.3%	0.6

**Table 3. Causative agents in patients with and without contiguous osteomyelitis of the hand or foot with positive wound or blood culture.**

Microorganism	MSSA*	MRSA*	Other Gram-Positive organisms	GNB*	Anaerobes	Other	Mixed
Patients with osteomyelitis (n=12)	4 <sup>†</sup>	3	Group A $\beta$ Hemolytic Streptococcus - 2 Group G $\beta$ Hemolytic Streptococcus - 1 Streptococcus viridans - 1 CoNS* - 1 Corynebacterium spp. - 1 Arcanobacterium spp. - 1	Klebsiella - 1 Citrobacter - 1	Elonella - 1	Candida - 1	5
Patients without osteomyelitis (n=15)	3	9 <sup>†</sup>	Group A $\beta$ Hemolytic Streptococcus - 1 Corynebacterium spp. - 1 Gemella spp. - 1	Serratia - 1	None	None	1

#### Discussion:

- COM detected in half of the cases.
- No other way to differentiate those who had or did not have osteomyelitis clinically.
- In concordance with previous reports - COM rarely associated with fever or leukocytosis, and only less than half of the patients had elevated CRP.
- Currently, imaging not standard practice in managing cellulitis/abscess.
- However, without imaging, 20 patients in our cohort would not have been diagnosed with COM, and would have been under-treated with only a short course of antibiotics.

#### Conclusion:

- Soft tissue infection of distal extremities with underlying contiguous osteomyelitis is novel association not previously described in any pediatric cohort study.
- Due to the close anatomical proximity of the bone, especially in the phalanges, Hands/feet imaging in pediatric patients hospitalized with cellulitis/abscess should be considered to identify COM and customize treatment.
- Further research is warranted.

**Disclosures:** The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this poster.

# Research 8-8

## Poster 8



### Neutrophil-to-Lymphocyte Ratio and Platelets-to-Lymphocyte Ratio in Twins Compared with Singletons

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#### ABSTRACT

- Twin pregnancies are associated with higher risk of poor obstetric outcomes and carry a distinct inflammatory and immunological profile compared to singletons.
- Neutrophil to lymphocyte ratio (NLR), platelet to lymphocyte ratio (PLR) and some of the routine complete blood cell count (CBC) components have been associated with major obstetrical syndromes.
- Our primary objective was to analyze NLR/PLR in twins compared to singletons. Our secondary objective was to compare white blood cells, neutrophils, lymphocytes and

#### Methods

- A Retrospective case-control study comparing twin vs singleton pregnancy during the three trimesters.
- Pregnancies excluded with potential confounding factors included: HIV, chronic hypertension, smoking, pregestational diabetes mellitus, or cases with miscarriage/intrauterine fetal demise.
- Twin pregnancies (Mono/Di and Di/Di) as cases and singletons as controls. IRB approval was obtained for the study.
- We recruited 29 twins and 29 singletons, matched for age, BMI and parity. (Table 1)

Table 1. Demographics of twin and singleton pregnancies

	Twins (n = 29)	Singletons (n = 29)	P
Age, y (range)	29 (26–36)	28 (23.5–34)	NS <sup>a</sup>
BMI, kg/m <sup>2</sup> (range)	30.9 (27.9–34)	31 (26.8–37)	NS <sup>a</sup>
Parity > 0	19/29	20/29	NS <sup>b</sup>

BMI, body mass index; NS, not significant.

<sup>a</sup>Mann-Whitney test.

<sup>b</sup>χ<sup>2</sup> test.

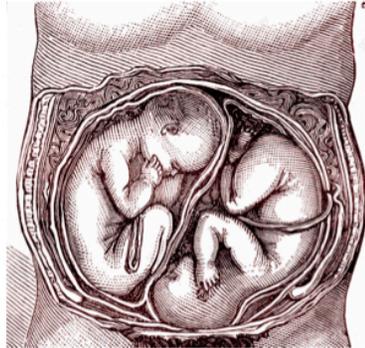


Table 2. First trimester CBC values in twins compared with singletons

	Twins (n = 29)	Singletons (n = 29)	P <sup>a</sup>
NLR	3.3 (2.5–4.2)	2.7 (1.8–3.2)	<0.01
PLR	136 (109–172)	131 (110–155)	NS
WBC	8.8 (7.6–10.4)	8.5 (6.5–10)	NS
Neutrophils	5.7 (4.9–6.9)	5.6 (3.4–7)	NS
Lymphocytes	1.7 (1.5–2.3)	2 (1.5–2.6)	NS
Platelets	244 (210–294)	259 (226–332)	NS

Numbers in parentheses indicate range. CBC, complete blood cell count; NLR, neutrophil:lymphocyte ratio; NS, not significant; PLR, platelet:lymphocyte ratio; WBC, white blood cell.

<sup>a</sup>Mann-Whitney test.

Table 3. Second trimester CBC values in twins compared with singletons

	Twins (n = 29)	Singletons (n = 29)	P <sup>a</sup>
NLR	3.8 (2.6–4.8)	3.3 (2.7–4.3)	NS
PLR	120 (99–157)	156 (109–189)	NS
WBC	9.2 (7.7–10.4)	8.3 (7–9.9)	NS
Neutrophils	6 (5–7.5)	6.1 (4.7–7.1)	NS
Lymphocytes	1.6 (1.4–2)	1.6 (1.2–2)	NS
Platelets	199 (173–267)	251 (217–281)	0.01

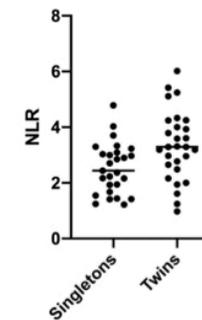
Numbers in parentheses indicate range. CBC, complete blood cell count; NLR, neutrophil:lymphocyte ratio; NS, not significant; PLR, platelet:lymphocyte ratio; WBC, white blood cell.

<sup>a</sup>Mann-Whitney test.

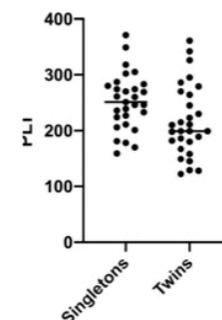
#### Results

- NLR was statistically significantly higher in the first trimester in twins compared to singletons (3.3 vs 2.7, p < 0.01) [Table 2 and Figure 1]
- Platelet value was lower in the second trimester in twins compared to singletons (199 vs 251, p = 0.01) [Table 3 and Figure 2].
- No statistical significance elicited in third trimester.

NLR in the first trimester



PLT in second trimester



#### DISCUSSION

We speculate that a decrease of NLR from the first to the second trimester and a decrease of platelet in the second trimester is part of the physiologic inflammatory/immune reaction of early pregnancy and it is necessary for an adequate placentation in twins.

#### Key Points

- The neutrophil:lymphocyte ratio in the first trimester is higher in twins compared with singletons.
- Platelet value in the second trimester is lower in twins compared with singletons.
- A decrease in the neutrophil:lymphocyte ratio from the first to the second trimester and a decrease in platelets in the second trimester may be required for the development of normal placentation in twin gestations.

# Medical Education/PI 1-3

## Poster 1



### TIMING OF DELIVERY AND BLOOD PRESSURE CUT OFF IN CHRONIC HYPERTENSION DURING PREGNANCY STATE OF ART AND NEW PROPOSALS



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#### Background

The ACOG (American College of Obstetricians and Gynecologists) recommends delivery for pregnant women with chronic hypertension at 36 weeks to 39 weeks and 6 days of gestation. Chronic hypertension during pregnancy is defined by a cut-off of 140/90 mmHg. The ACC (American College of Cardiology) and AHA (American Heart Association) in 2017 have lowered the blood pressure cut off for stage I hypertension to 130/80 mmHg in the non-pregnant adult population.

#### Methods

We reviewed the available literature for elective induction timing in women with chronic hypertension. We also reviewed the literature about the fetal and maternal outcomes in pregnant women with pre-hypertension (systolic blood pressure of 120-139 mmHg and/or a diastolic blood pressure of 80-89 mmHg) according to the 2003 seventh report for Joint National Committee in prevention, detection, evaluation and treatment of high blood pressure (JNC7) or stage 1 hypertension (systolic blood pressure of 130-139 mmHg and/or a diastolic blood pressure of 80-89 mmHg) according to the 2017 ACC/AHA guideline.

#### Results

We found 2 randomized clinical trials and 1 retrospective observational study comparing elective delivery of pregnant patients with chronic hypertension versus expectant management (Fig.1). The randomized trials favored expectant management and the observational study favored induction of labor. We found 15 retrospective cohort studies analyzing maternal and fetal outcomes in pregnant women with blood pressure cut off lower than 140/90 mmHg and higher than 120/80 mmHg (Fig.1). In women with pre-hypertension or stage I hypertension, there was a consistent finding of increased risk of any hypertensive disorder of pregnancy, gestational diabetes mellitus, and small for gestational age neonate.

#### Conclusions

The evidence supporting induction of labor at term for women with chronic hypertension is scarce and the current recommendations are based mainly on expert opinions. Increasing evidence about poor pregnancy outcomes with blood pressures lower than 140/90 mmHg is accumulating. Randomized clinical trials are needed to assess the appropriate timing of delivery for women with stage I hypertension. A blood pressure cut off of 130/80 mmHg might be incorporated into an updated definition of chronic hypertension during pregnancy.

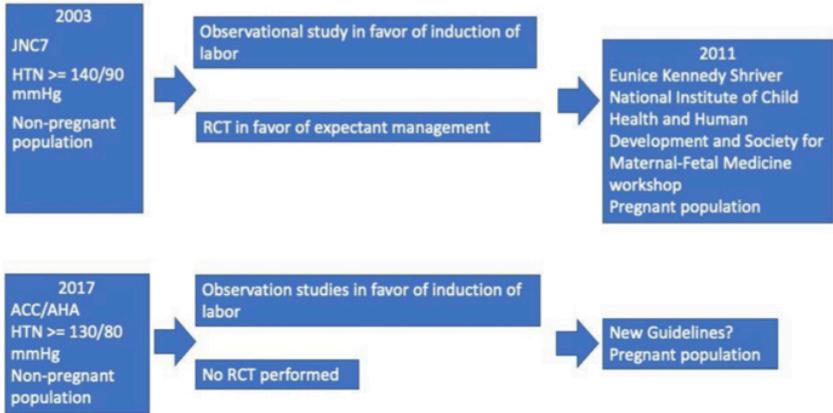


Fig. 1. Flow of events from recommendations in non-pregnant population to pregnant population regarding chronic hypertension.

# Medical Education/Health Policy/PI 2-3

## Poster 2



### IDENTIFYING AND ADDRESSING OVERWEIGHT AND OBESITY IN THE BRONX: A PERFORMANCE IMPROVEMENT (PI) PROJECT

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### ABSTRACT

**Background**  
Obesity is often underrecognized and not addressed, predisposing to increased mortality and poorer physical functioning with disability. Obesity is a global pandemic. Identifying and addressing obesity is one way to reduce disease burden and improve outcomes. Appropriate interventions improve quality of life and disease burden. A standardized weighing scale and stadiometer plus a simple calculation provides the Body Mass Index to detect overweight / obesity status.

**Methods**  
From September 2020 to January 2021, as requirements of a geriatric medicine fellowship program, our PI project aimed at identifying and addressing obesity in the hospital (H), nursing home (NH) and outpatient clinic (C) in the Bronx under supervision of faculty attending geriatricians. Data was collected with a designed tool, Simplified Nutritional Assessment Questionnaire (SNAQ). Interventions followed.

**Results**  
273 participants, 264 analyzed, mean age 76 years (NH: 78, H:70, C:76), M:F, 0.62:1. Seventy-eight participants had a normal BMI (29.5%), 5.8% (n=18) were underweight, mean age 76.3 yrs, SNAQ score 11.79. Proportion of overweight and obesity was 64.8% (n=171); mean age 76.2 yrs, mean SNAQ score 15 and mean BMI 31.8. Male: Female ratio was 0.63:1.  
Per setting, the community had the highest proportion of overweight and obesity (81.2%, n=68), with nursing homes having over half their residents 55.8%, n=63, and the hospital with lowest share with 46.5% (n=20). Among those overweight and obese, 26 (15.1%) had a primary diagnosis of diabetes mellitus and 39 (22.8%) were cognitively impaired.

Setting	BMI < 25	BMI 25-30	BMI > 30	Total from location (n=171)		
				NH	H	C
Community	10	10	68	10	10	68
Nursing Home	0	0	63	0	0	63
Hospital	0	0	20	0	0	20
Outpatient	0	0	0	0	0	0
<b>Total</b>	<b>10</b>	<b>10</b>	<b>151</b>	<b>10</b>	<b>10</b>	<b>151</b>

**Conclusions**  
Overweight and obesity states are highly prevalent among older adults in the Bronx and easily identified across settings. Our data demonstrates that once obesity is recognized, interventions can be offered, including nutritional consultation and diet, physical activity and deprescription of medications implicated with obesity. Addressing obesity will likely lower healthcare costs and risk for hospitalization or institutionalization long-term.

**Bibliography**  
JA Batsis, AB Zagaria. Addressing Obesity in Aging patients. Med Clin North Am. 2018;102 (1): 65-85

### OBJECTIVES

- To identify the prevalence of overweight and obesity status across 3 settings-Nursing home (NH), hospital (H), and community (C) in the Bronx
- To provide interventions with an aim to promote weight loss in residents found to be overweight or obese in all 3 settings

### METHODS

- From September 2020 to January 2021, data was collected from residents in three nursing homes in the Bronx (NH), patients in the hospital (H), and outpatient clinic (C), using a designed tool along with the Simplified Nutritional Assessment Questionnaire (SNAQ)
- Weight and height was measured using a stadiometer and weighing scale
- Interventions were administered under supervision of attending geriatricians
- Data was collated and analyzed using Windows Microsoft Excel Office 365

Table 1 : Simplified Nutritional Appetite Questionnaire

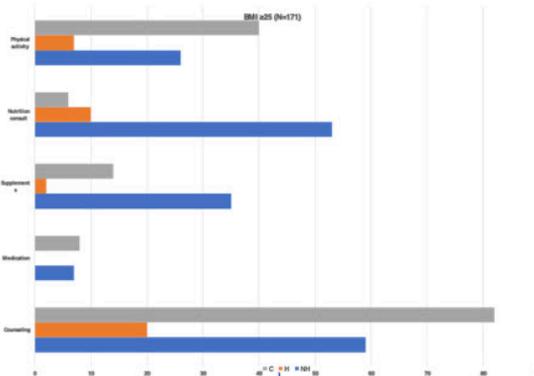
Score based on numerical scale: a=1, b=2, c=3, d=4, e=5. The sum of individual items constitutes the SNAQ score. SNAQ score < 14 indicates significant risk of at least 5 percent weight loss within six months.

- My appetite is
  - Very poor
  - Poor
  - Average
  - Good
  - Very good
- When I eat
  - I feel full after eating only a few mouthfuls
  - I feel full after eating about a third of a meal
  - I feel full after eating over half a meal
  - I feel full after eating most of the meal
  - I hardly ever feel full
- Food tastes
  - Very bad
  - Bad
  - Average
  - Good
  - Very good
- Normally I eat
  - Less than one meal a day
  - One meal a day
  - Two meals a day
  - Three meals a day
  - More than three meals a day

Table 2: Interventions across settings

Interventions	BMI ≥ 25	Total from location-171		
		NH 63	H 20	C 88
<b>Counseling</b>	Diet: low fat, non-concentrated carbohydrate DASH diet; no added salt	59	20	82
<b>Medications</b>	Steroids, antipsychotics and antidepressants deprescribed; metformin continued	7	0	8
<b>Supplements</b>	Low calories products	35	2	14
<b>Nutrition consult</b>	Diet, weight monitoring	53	10	6
<b>Physical activity</b>	Tailored as tolerated	26	7	40

Figure 1: Intervention Across Settings



### RESULTS

- 273 participants in total, 264 analyzed, mean age 76 years (NH:78, H:70, C:76), M:F 0.62:1
- Seventy-eight participants had a normal BMI (29.5%)
- 5.8% (n=18) were underweight, mean age was 76.3 years, SNAQ score was 11.79
- Proportion of overweight and obesity was 64.8% (n=171); mean age 76.2, mean SNAQ score 15 and mean BMI 31.9.
- Proportion of obesity alone was 31.4%
- Male: Female ratio was 0.63:1
- Per setting, the community had the highest proportion of overweight and obesity (8.5%, n=88), with the nursing home having over half their residents, 55.8%, n=63, and the hospital with the lowest share at 46.5% (n=20)
- Among those overweight and obese, 26 (15.1%) had a primary diagnosis of diabetes mellitus and 39 (22.8%) were cognitively impaired

### DISCUSSION

- Globally, the prevalence of obesity is rising in all age groups.
- Older adults are no exception to this fact and perhaps are less likely to be addressed for several reasons
- In older adults, excess weight is associated with a higher prevalence of cardiovascular disease, metabolic disease, cancers, hypertension and several other medical conditions
- Excess weight also predisposes to disability and decreased functioning, impacting morbidity, mortality and quality of life.
- Unrecognized obesity is unlikely to be addressed. Identifying the disorder is easily achieved in all settings
- Following documentation of obesity, interventions must follow. Diet alone although beneficial in weight reduction may not address all concerns. A multifaceted approach including revision of medications and individualized physical activity is beneficial and improves physical functioning as well

### CONCLUSIONS

- Overweight and obesity states are highly prevalent among older adults in the Bronx and can be easily identified across settings
- Our data demonstrates that once obesity is recognized, interventions can be offered, including nutritional consultation and diet, physical activity and deprescription of medications implicated in obesity
- Addressing overweight and obesity will likely lower healthcare costs and risk for hospitalization or institutionalization long-term
- A multidisciplinary approach provides a greater chance of success in achieving weight loss and overall improved quality of life

Bibliography: JA Batsis, AB Zagaria. Addressing Obesity in Aging patients. Med Clin North Am 2018;102 (1): 65-85

# Medical Education/Health Policy/PI 3-3

## Poster 3



### Utilizing the Fishbone Diagram to Address Falls In a Hospital Geriatric Unit M Rahman MD, M Kanagala MD, TS Dharmarajan MD Geriatric Division, Montefiore Medical Center (Wakefield), Bronx, NY



#### Abstract

##### Utilizing the Fishbone Diagram to Address Falls In a Hospital Geriatric Unit

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##### Introduction:

A fall is an unintentional positional change resulting in a person coming to rest on the ground, floor, or lower surface. Falls result in injury, death, hospitalization and increase risk of disability and nursing home placement. Falls result from multiple factors, including gait instability, comorbidity, adverse drug effects and environmental causes. Prevention in hospital settings needs individualized multicomponent interventions and an organized approach.

##### Fishbone diagram (FB) for root cause analysis (RCA) of falls:

A systematic approach based on evidence may prevent falls incidence. Diagram displayed in poster.

Step 1 is to identify patients at risk. RCA involves a team process to identify underlying risk factors. A cause and effect "Fishbone" diagram helps identify possible cause(s) for falls and sort ideas into categories and alternative cause. The problem of effect is displayed at the head or mouth of the fish. Possible contributing causes are listed on the smaller bones under categories. Brainstorm all causes; ask why does it happen? Causes are now categorized. Ask "why does this happen" for each cause. Sub-causes are the branches. Again, ask Why? Generate deeper levels of causes; organize into categories. Encourage team members to voice opinions. Continue until all ideas are exhausted. The tool keeps the team focused on causes of falls, that can be addressed, not consequences.

##### Discussion:

The root causes are underlying process and system problems that result in falls. FB is a visual way to view cause and effect. After any incident in a hospital setting, the FB diagram helps go beyond the initial incident report, to understand the elements causing the problem, and address them. Once root causes are identified, each factor must be addressed. The environmental factors identified were tripping hazards, clutter, call bell and light out of reach, delayed call light response, lack of toileting schedule, belongings (telephone) out of reach. Patient factors inadequately assessed were cognition, vision, gait (TUG test), orthostasis and balance. Safety awareness especially routine medication review (sedative hypnotics, antipsychotics, antihypertensive) needed to be enhanced. Staff knowledge and skills, patient and staff education needed to be standardized. Provision of non-slip footwear, cane and walker could be implemented. There is a need to listen to the frontline caregivers like PCA, CNA on their views for offering solutions.

##### Conclusions:

Understanding the contributing factors to in-hospital falls from every staff member and categorizing them, utilizing a fishbone diagram helped initiate actions for prevention of falls in our unit.

#### Introduction

##### Introduction:

A fall is an unintentional positional change resulting in a person coming to rest on the ground, floor, or lower surface. Falls result in injury, death, hospitalization and increase risk of disability and nursing home placement. Falls result from multiple factors, including gait instability, comorbidity, adverse drug effects and environmental causes. Prevention in hospital settings needs individualized multicomponent interventions

and an organized approach.

#### Case Description

##### Fishbone diagram (FB) for root cause analysis (RCA) of falls:

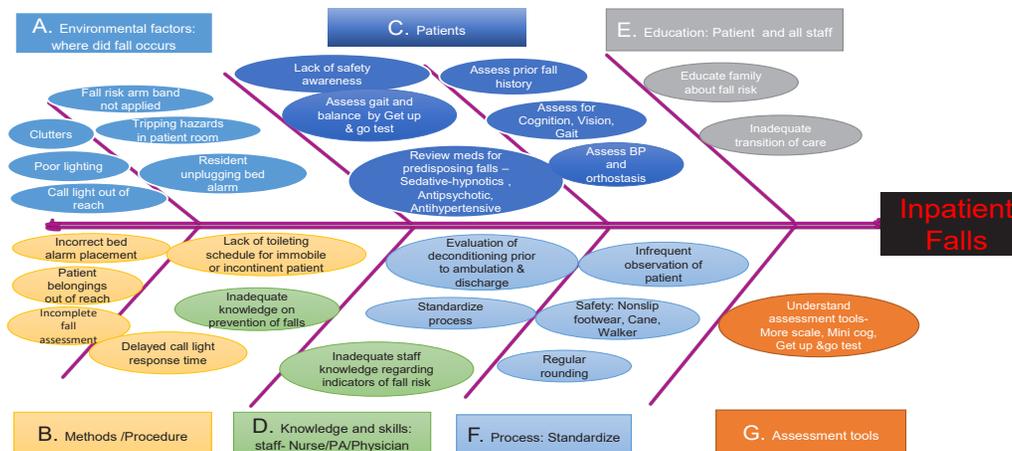
A systematic approach based on evidence may prevent falls incidence. Diagram displayed in poster. Step 1 is to identify patients at risk. RCA involves a team process to identify underlying risk factors. A cause and effect "Fishbone" diagram helps identify possible cause(s) for falls and sort ideas into categories and alternative cause. The problem of effect is displayed at the head or mouth of the fish. Possible contributing causes are listed on the smaller bones under categories. Brainstorm all causes; ask why does it happen? Causes are now categorized. Ask "why does this happen" for each cause. Sub-causes are the branches. Again, ask Why? Generate deeper levels of causes; organize into categories. Encourage team members to voice opinions. Continue until all ideas are exhausted. The tool keeps the team focused on causes of falls, that can be addressed, not consequences.

#### Discussion

##### Discussion:

The root causes are underlying process and system problems that result in falls. FB is a visual way to view cause and effect. After any incident in a hospital setting, the FB diagram helps go beyond the initial incident report, to understand the elements causing the problem, and address them. Once root causes are identified, each factor must be addressed. The environmental factors identified were tripping hazards, clutter, call bell and light out of reach, delayed call light response, lack of toileting schedule, belongings (telephone) out of reach. Patient factors inadequately assessed were cognition, vision, gait (TUG test), orthostasis and balance. Safety awareness especially routine medication review (sedative hypnotics, antipsychotics, antihypertensive) needed to be enhanced. Staff knowledge and skills, patient and staff education needed to be standardized. Provision of non-slip footwear, cane and walker could be implemented. There is a need to listen to the frontline caregivers like PCA, CNA on their views for offering solutions.

### FALLS:FISHBONE DIAGRAM CAUSE AND EFFECT ANALYSIS(ROOT CAUSE ANALYSIS)



#### Conclusions

##### Conclusions:

Understanding the contributing factors to in-hospital falls from every staff member and categorizing them, utilizing a fishbone diagram helped initiate actions for prevention of falls in our unit.

#### Bibliography

- Rodrigues, Lori. Using a fishbone (RCA) diagram to problem solve falls. San Jose state university: QSEN Institute, February 18,2011



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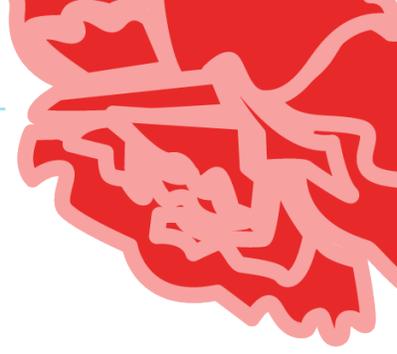
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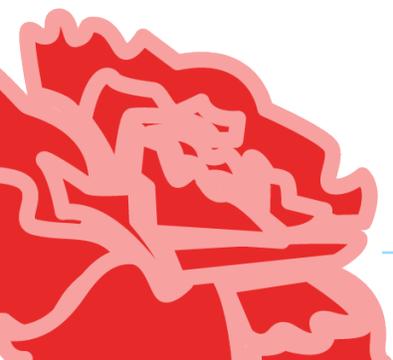
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The Bronx County Medical Society would like to acknowledge the work and dedication to our Executive Director, Ron Blount. We all owe a debt of gratitude for his many contributions and support for the Bronx and for the Bronx County Medical Society. While his many contribution are too many to name, his work with lobbying, vaccine distribution, education and supporting our physicians is unparalleled. With his support, ideas and dedication to the community and to our physicians, we are all the better for it and words alone can not convey our thanks for his work behind the scene.



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