


PACIFIC COAST SURGICAL ASSOCIATION

94TH ANNUAL MEETING
SCIENTIFIC PROGRAM

FEBRUARY 3-5, 2023

PORTOLA HOTEL & SPA

MONTEREY, CA

EDUCATION JOINTLY PROVIDED BY THE AMERICAN COLLEGE OF SURGEONS AND THE PACIFIC COAST SURGICAL ASSOCIATION.


Pacific Coast Surgical Association
94th Annual Meeting
Scientific Program

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PCSA Leadership

Council Officers
Sherry Wren, President (2023) Palo Alto, CA
Cindy Kin, Vice President (2023) Stanford, CA
Wen Shen, Historian San Francisco, CA
Lygia Stewart, Secretary-Treasurer (2025) San Francisco, CA
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Council Representatives
Dan Eisenberg (2023) Adv Council for Gen. Surg, ACS
Laurence Yee (2023) Board of Governors, ACS
Kenji Inaba (2023) American Board of Surgery

2023 Program Committee
Program Chair and Recorder: Sharon Lum (2026)
Sherry Wren (2023)
Lygia Stewart (2025)
Matthew Martin (2025)
Stephanie Acierno (2025)
Michael Campbell (2023)
Jennifer Watters (2024)

Scientific Program Information

Overall Goal and Objectives of the Program: The goal of the program is to provide an educational opportunity for PCSA Members. Members are academic and community surgeons from four caucuses – Northern California, Southern California, Washington/British Columbia/Alaska, and Hawaii/Oregon. Membership is selective. Attendees represent the leaders of their medical communities.

Learning Outcomes: The meeting will provide high-quality up-to-date information regarding major areas in general surgery. Attendees will learn the most recent developments in the field of surgery from scientific and clinical leaders. Time will be provided following each presentation for questions and discussion. Moderators will oversee sessions and facilitate discussions.

Disclosure: In accordance with the ACCME Accreditation Criteria, the American College of Surgeons must ensure that anyone in a position to control the content of the educational activity (planners and speakers/authors/discussants/moderators) has disclosed all financial relationships with any ineligible company held in the last 24 months. Please note that first authors were required to collect and submit disclosure information on behalf all other authors/contributors, if applicable. Please visit PCSAonline.org/2023AnnualMeeting to view.

Disclaimer: Attendees voluntarily assume all risks involved in travel to and from the Annual Meeting, as well as attendance and participation in the program. PCSA and Association Management by the American College of Surgeons shall not be liable for any loss, injury, or damage to person or property resulting directly or indirectly from any acts of God, acts of government or other authorities, civil disturbances, acts of terrorism, riots, thefts, or from any other similar causes.

CONTINUING MEDICAL EDUCATION CREDIT INFORMATION

Accreditation

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of American College of Surgeons and Pacific Coast Surgical Association. The American College of Surgeons is accredited by the ACCME to provide continuing medical education for physicians.

AMA PRA Category 1 Credits™

The American College of Surgeons designates this live activity for a maximum of **13.25** *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Of the *AMA PRA Category 1 Credits™* listed above, a maximum of **8.0** credits meet the requirements for Self-Assessment.

ACS AMERICAN COLLEGE OF SURGEONS

ACCME ACCREDITED WITH COMMENDATION

AMERICAN COLLEGE OF SURGEONS
DIVISION OF EDUCATION

Meeting Details

WIFI

WIFI is complimentary in the General Session Room. To access locate: Portola Network. *The password is **jacks***.

CME

Visit PCSAOnline.org and use the drop-down menu for 2023 Annual Meeting to access direct links and instructions for completing the PCSA Global CME Evaluation. You may also access the evaluation by clicking on the QR Code:

Upon completion, you will receive your CME/Completion Certificate.

Please do not complete the evaluation until the meeting has concluded to provide your total Self-Assessment credit hours for your CME Certificate.

MOC/SELF ASSESSMENT

MOC/Self-Assessment quizzes will open during each session. You may visit www.PCSAOnline,org and use the drop-down menu for 2023 Annual Meeting to access direct links throughout the meeting. You may also click on the QR Code below which will be updated each session with the appropriate quiz.

Speaker Disclosures

Please visit PCSAOnline.org and use the drop-down menu for 2023 Annual Meeting to view the speaker disclosures/conflicts.

Pacific Coast Surgical Association
February 3 – 5, 2023
2023 Meeting Agenda

Wednesday, February 1
6:00 pm – 7:00 pm Council Reception (Invite Only) Cottonwood Room I/II
7:00 pm – 9:00 pm Council Dinner (Invite Only) Cottonwood Room I/II

Thursday, February 2
7:00 am – 8:00 am Finance Committee Meeting and Breakfast Cottonwood Room I/II
8:00 am – 12:00 pm Council Meeting and Breakfast Cottonwood Room I/II
12:00 pm – 12:15 pm Council Photograph Jacks Terrace
12:15 pm – 1:15 pm Council Lunch Private Dining Room
1:15 pm – 3:00 pm Executive Session of the PCSA Council Cottonwood I/II
3:00 pm – 7:00 pm Registration Opens De Anza Foyer
3:00 pm – 7:00 pm Speaker Ready Room Bonsai II, III
4:45 pm – 7:15 pm Shuttle Transportation Monterey Aquarium (to/from)
5:00 pm – 6:00 pm New Member Private Reception (Invite Only) Portola Room
6:15 pm – 10:30 pm Welcome Reception* Monterey Aquarium: **NAME BADGES ARE REQUIRED FOR ENTRY**

Friday, February 3
6:30 am – 7:30 am TBD/Committee Meetings Cottonwood I/II
7:00 am – 5:15 pm Registration De Anza Foyer
6:30 am – 5:15 pm Speaker Ready Room Bonsai II/III
7:30 am – 8:30 am Scientific Session 1 (Podiums) De Anza II/III
8:30 am – 9:30 am Scientific Session 2 (Podiums) De Anza II/III
9:30 am – 10:00 am Morning Break with Industry Support De Anza Foyer/I
10:00 am – 11:00 am Scientific Session 3 (Brief Podiums) De Anza II/III
11:00 am - 12:00 pm President's Address and New Member Induction De Anza II/III
12:00 pm – 1:30 pm LUNCH ON YOUR OWN
1:30 pm – 2:30 pm Scientific Session 4 (Podiums) De Anza II/III
2:30 pm – 3:30 pm Scientific Session 5 (Podiums) De Anza II/III
3:30 pm – 4:00 pm Morning Break with Industry Support De Anza Foyer/I
4:00 pm – 5:00 pm Presidential Great Debates De Anza II/III
5:00 pm – 5:30 pm Business Meeting (Members Only) De Anza II/III
5:30 pm – 6:30 pm Leadership & Industry Support Reception (Invite Only) Portola Room
5:30 pm – 6:30 pm Trainee Networking Reception (Invite Only) Redwood Room

Saturday, February 4
7:00 am – 8:00 am Continental Breakfast with Industry Support De Anza Foyer/I
7:00 am – 12:00 pm Registration De Anza Foyer
7:00 am – 12:00 pm Speaker Ready Room Bonsai III
8:00 am – 8:30 am Historian Presentation De Anza II/III
8:30 am – 9:30 pm Scientific Session 6 (Podiums) De Anza II/III
9:30 am –10:00 am Afternoon Break with Industry Support De Anza Foyer/I

10:00 am – 11:00 am Scientific Session 7 (Brief Podiums) De Anza II/III
11:00 am – 12:00 am Scientific Session 8 (Podiums) De Anza II/III
12:00 pm – 6:00 pm Local/Family & Networking Activities Various
6:30 pm – 7:15 pm President's Reception De Anza Foyer
7:15 pm – 10:00 pm President's Dinner De Anza Ballroom
6:30 pm – 10:00 pm Complimentary Childcare Redwood I/II

Sunday, February 5
5:00 am – 7:30 am TBD/Committee Meetings Bonsai I
7:00 am – 8:00 am Breakfast De Anza Foyer/I
7:00 am – 12:00 pm Registration De Anza Foyer
7:00 am – 11:00 am Speaker Ready Room Bonsai III
8:00 am – 9:00 am Scientific Session 9 (Podiums) De Anza II/III
9:00 am – 10:00 am Scientific Session 10 (Brief Podiums) De Anza II/III
10:00 am – 11:00 am Scientific Session 11 (Podiums) De Anza II/III
11:00 am – 11:15 pm PCSA Gavel Presentation and Adjournment De Anza II/III
11:15 pm – 12:00 pm PCSA Leadership Debrief (Invite Only) Private Dining Room

Pacific Coast Surgical Association
February 3 – 5, 2023
2023 Scientific Program

Friday, February 3

Registration Open (6:30 AM – 5:15 PM)

BREAKFAST WITH INDUSTRY SUPPORT (6:30 AM – 7:30 AM)

Session 01 | Paper 01 (7:30 AM - 7:45 AM)

Determining the BMI Threshold for Ventral Hernia Recurrence: A Multi-Institutional County Health Care System Study | Presenter: James Cook

Session 01 | Paper 02 (7:45 AM - 8:00 AM)

An Objective Assessment of Obesity-related Metabolic Co-morbidities (AOMC) Tool more Accurately Describes Disease Severity | Presenter: John Arriola

Session 01 | Paper 03 (8:00 AM - 8:15 AM)

Timed Up and Go Assessment Provides 2-Year Mortality Risk in General and Vascular Surgery Patients | Presenter: Emanuel Jaramillo

Session 01 | Paper 04 (8:15 AM - 8:30 AM)

The Bascom Cleft-Lift Prevents Recurrence and Accelerates Recovery After Surgery for Pilonidal Disease | Presenter: Robert Bell

Session 02 | Paper 05 (8:30 AM - 8:45 AM)

Prediction of High-Risk Donors for Kidney Discard using Unstructured Donor Narratives | Presenter: Junichiro Sageshima

Session 02 | Paper 06 (8:45 AM - 9:00 AM)

High KDPI Kidneys in Patients 65 and Older Offer Shorter Wait Times | Presenter: Naeem Goussous

Session 02 | Paper 07 (9:00 AM - 9:15 AM)

Epstein-Barr virus-associated post-transplant lymphoproliferative disorders in pediatric transplantation: A prospective multicenter study in the US | Presenter: Tetsuya Tajima

Session 02 | Paper 08 (9:15 AM - 9:30 AM)

Disordered Sleep in Adolescents Recovering from Surgery | Presenter: Marjorie Odegard

BREAK WITH INDUSTRY SUPPORT (9:30 AM – 10:00 AM)

Session 3 | Brief Podium 01 (10:00 AM - 10:05 AM)

Electromagnetic Navigational System Lowers Positive Margin Rate in Breast Conservation Surgery Compared to Wire Localization | Presenter: Lorena Gonzalez

Session 3 | Brief Podium 02 (10:05 AM- 10:10 AM)

Survival After Contralateral Secondary Breast Cancer by Age Group in California | Presenter: Lauren Perry

Session 3 | Brief Podium 03 (10:10 AM- 10:15 AM)

Surveillance Strategies Following Prophylactic Nipple Sparing Mastectomy in BRCA Mutation Carriers | Presenter: Christina Weed

Session 3 | Brief Podium 04 (10:15 AM- 10:20 AM)

Review of Operative Report Documentation to Audit Surgical Coding | Presenter: Michael Wilkinson

Session 3 | Brief Podium 05 (10:20 AM- 10:25 AM)

Small Victories: Microlearning through Animation is an Effective Tool in Surgical Education | Presenter: Cintia Kimura

Session 3 | Brief Podium 06 (10:25 AM- 10:30 AM)

Pacific Northwest (PNW) Perspectives on the National Accreditation Program for Rectal Cancer (NAPRC) | Presenter: Anjali Kumar

Session 3 | Brief Podium 07 (10:30 AM- 10:35 AM)

Travel Distance Affects Management of Patients with Malignant Bowel Obstruction | Presenter: Beatrice Sun

Session 3 | Brief Podium 08 (10:35 AM- 10:40 AM)

Disparities in Access, Quality, and Clinical Outcome for Hispanic Californians with Colon Cancer | Presenter: Aaron Dawes

Session 3 | Brief Podium 09 (10:40 AM- 10:45 AM)

Disparities in Melanoma Outcomes for People of Color are Mitigated in a Integrated Healthcare System | Presenter: Maris Jones

Session 3 | Brief Podium 10 (10:45 AM- 10:50 AM)

Atypical Parathyroid Adenomas have a Genetic Background Consistent with Benign Parathyroid Adenomas | Presenter: Michelle Mulder

Session 3 | Brief Podium 11 (10:50 AM- 10:55 AM)

The Role of Adjuvant Radiation Therapy in Surgically Resected Stage III Merkel Cell

Carcinoma | Presenter: Seyed Saeed Pairawan

Session 3 | Brief Podium 12 (10:55 AM- 11:00 AM)

Quality of Life After Pancreatoduodenectomy: Is the Outcome Predetermined By the Diagnosis? | Presenter: Trevor Silva

PRESIDENT'S ADDRESS AND NEW MEMBER INDUCTION (11:00 AM – 12:00 PM)

LUNCH ON YOUR OWN (12:00 PM – 1:30 PM)

Session 04 | Paper 09 (1:30 PM - 1:45 PM)

Can Predictors of Upstage to Malignancy in Atypical Ductal Hyperplasia Identify a Low-Risk Cohort? | Presenter: Alexandra Greene

Session 04 | Paper 10 (1:45 PM - 2:00 PM)

Minimally Invasive Recovery Program in the Era of Minimally Invasive Gastrectomy for Gastric Cancer | Presenter: Swee Teh

Session 04 | Paper 11 (2:00 PM - 2:15 PM)

Randomized Controlled Trial of Perioperative Telemonitoring in Gastrointestinal Oncologic Surgery: Assessing Overall Feasibility and Acceptability | Presenter: Kristen Limbach

Session 04 | Paper 12 (2:15 PM - 2:30 PM)

Greening the OR: Piloting Reusable Surgical Gowns with the PDSA Cycle | Presenter: Ava Yap

Session 05 | Paper 13 (2:30 PM - 2:45 PM)

Association of cumulative social risk and survival among patients with advanced colorectal cancer | Presenter: Kirbi Yelorda

Session 05 | Paper 14 (2:45 PM - 3:00 PM)

Regionalization of Pancreatic Surgery in California: A Concept with Greater Appeal than Anticipated Benefits | Presenter: Lauren Perry

Session 05 | Paper 15 (3:00 PM - 3:15 PM)

Colectomy at Highest Safety-Net Burden Hospitals is Associated with Decreased Textbook Oncologic Outcomes and Survival | Presenter: Paul Wong

Session 05 | Paper 16 (3:15 PM - 3:30 PM)

National Examination of the Cost-Volume Relationship in Robotic Pancreatectomy | Presenter: Arjun Verma

BREAK WITH INDUSTRY SUPPORT (3:30 PM – 4:00 PM)

President's Great Debate (4:00 PM – 5:00 PM)

PCSA Membership Business Meeting (5:00 PM – 5:30 PM)

Industry Support Reception (*Invitation Only*) (5:30 PM – 6:30 PM)

Trainee Networking Reception (*Invitation/ Trainees Only*) (5:15 PM – 6:30 PM)

Saturday, February 4

Registration Open (7:00 AM – 12:00 PM)

BREAKFAST WITH INDUSTRY SUPPORT (7:00 AM – 8:00 AM)

HISTORIAN PRESENTATION (8:00 AM – 8:30 AM)

Session 06 | Paper 17 (8:30 AM - 8:45 AM)

Impact of Fibrinolysis Phenotype on Patient Outcomes following Traumatic Brain Injury | Presenter: Samantha Durbin

Session 06 | Paper 18 (8:45 AM - 9:00 AM)

Bridging the Machine-Learning Implementation Gap: LDM Injury Index, A Practical Algorithm to Quantify Injury Severity | Presenter: Jeff Choi

Session 06 | Paper 19 (9:00 AM - 9:15 AM)

COVID-19 Delay in Screening Colonoscopy Impacts Survival in an Integrated Healthcare System | Presenter: Jessica Weiss

Session 06 | Paper 20 (9:15 AM - 9:30 AM)

Outcomes and Health Equity Impact of Telehealth Use for Pediatric Surgery Preoperative Care | Presenter: Hannah Cockrell

BREAK WITH INDUSTRY SUPPORT (9:30 AM – 10:00 AM)

Session 7 | Brief Podium 13 (10:00 AM - 10:05 AM)

Contributions to Surgery: The Pacific Coast Surgical Association (PCSA) Publication History from 2008-2020 Annual Meetings | Presenter: Jenny Chang

Session 7 | Brief Podium 14 (10:05 AM- 10:10 AM)

Beyond the Citation Count: Analysis of the Top 100 Disruptive Academic Publications in Bariatric Surgery | Presenter: Jessica Wu

Session 7 | Brief Podium 15 (10:10 AM- 10:15 AM)

Association between Same-day Discharge and Delays in Care for Complications following Sleeve Gastrectomy | Presenter: Vincent Cheng

Session 7 | Brief Podium 16 (10:15 AM- 10:20 AM)

Through the Scope, Through the Years: Trends in Laparoscopic Common Bile Duct Exploration | Presenter: Nicholas Gonsalves

Session 7 | Brief Podium 17 (10:20 AM- 10:25 AM)

Frailty and Adherence to the Physical Activity Component of Home-based Prehabilitation in Gastrointestinal Surgery Patients | Presenter: Uyen Mai

Session 7 | Brief Podium 18 (10:25 AM- 10:30 AM)

An Interrupted Time Series Analysis: Improving Uptake of Multimodal Pain Management after Surgery | Presenter: Tasce Bongiovanni

Session 7 | Brief Podium 19 (10:30 AM- 10:35 AM)

Like, Comment, Share: What Facebook Groups Bring to the Surgical Community | Presenter: Jonathan DeLong

Session 7 | Brief Podium 20 (10:35 AM- 10:40 AM)

Simultaneous versus Staged Cardiac Intervention in High Acuity Liver Transplantation: A Comprehensive Outcomes Analysis | Presenter: Julian Horwitz

Session 7 | Brief Podium 21 (10:40 AM- 10:45 AM)

Characteristics Associated with Early Allograft Failure in Deceased Donor Kidney Transplantation | Presenter: Jennifer Loza

Session 7 | Brief Podium 22 (10:45 AM- 10:50 AM)

A Tale of Two Prophylaxes: Enoxaparin Versus Heparin for Venous Thromboembolism Prevention | Presenter: Alexander Marrotte

Session 7 | Brief Podium 23 (10:50 AM- 10:55 AM)

The Effect of Anesthesia Type on Outcomes of Infrainguinal Bypasses in Vascular Quality Initiative-Medicare-Linked Database | Presenter: Sina Zarrintan

Session 7 | Brief Podium 24 (10:55 AM- 11:00 AM)

Expanding Eligibility for Abdominal Aortic Aneurysm Screening Increases Ultrasounds Without Impacting Diagnosis | Presenter: Vy Ho

Session 08 | Paper 21 (11:00 AM - 11:15 AM)

Does Tranexamic Acid Increase Thromboembolism Risk Among Trauma Patients? A Prospective Multicenter Analysis | Presenter: Lisa Marie Knowlton

Session 08 | Paper 22 (11:15 AM - 11:30 AM)

Cost-Effective Analysis of Routine Angiography for Lower Extremity Penetrating Trauma | Presenter: Nathan Alcasid

Session 08 | Paper 23 (11:30 AM - 11:45 AM)

Reimaging of High-Grade Blunt Hepatic Injuries: A Multicenter Study | Presenter: Caitlyn Braschi

Session 08 | Paper 24 (11:45 AM - 12:00 PM)

Patient-Level Factors Associated with Screening for Intimate Partner Violence at a Level 1 Trauma Center | Presenter: Hannah Decker

Sunday, February 5

Registration Open (7:00 AM – 10:30 AM)

BREAKFAST (7:00 AM – 8:00 AM)

Session 09 | Paper 25 (8:00 AM - 8:15 AM)

Hollow Viscus Injury Prediction Scoring System for Abdominal Seatbelt Sign: A PCSA Multicenter Study | Presenter: Jeffrey Santos

Session 09 | Paper 26 (8:15 AM - 8:30 AM)

Barriers and facilitators of surgical prehabilitation adherence from the patient perspective: A mixed methods study | Presenter: Cintia Kimura

Session 09 | Paper 27 (8:30 AM - 8:45 AM)

A Prospective Study of Medical Legal Needs in Emergency General Surgery and Trauma Patients | Presenter: Nicole DePolo

Session 09 | Paper 28 (8:45 AM - 9:00 AM)

Closure of a Trauma Center Was Associated with An Increase in Mortality in Surrounding Centers | Presenter: Neil Thivalapill

Session 10 | Brief Podium 25 (9 AM - 9:05 AM)

10-52 Roll an Ambulance—Outcomes of Injured Suspects Sustaining Gunshot Wounds from Law Enforcement Action | Presenter: Zachary Tran

Session 10 | Brief Podium 26 (9:05 AM- 9:10 AM)

Years of Life Lost due to Firearm Suicide Mortality Among Young People in the US | Presenter: Stephanie Garcia

Session 10 | Brief Podium 27 (9:10 AM- 9:15 AM)

Forgotten Branch of the Intercontinental Nerve: Implication for Cryoablation Nerve Block for Pectus Excavatum Repair | Presenter: Sunghoon Kim

Session 10 | Brief Podium 28 (9:15 AM- 9:20 AM)

Antegrade Continence Enema for Patients with Hirschsprung Disease: A Retrospective Multi-Institutional Study | Presenter: Hira Ahmad

Session 10 | Brief Podium 29 (9:20 AM- 9:25 AM)

Emergency Department Visits: An Improvement Opportunity for Ambulatory Surgery

| Presenter: Charlotte Rajasingh

Session 10 | Brief Podium 30 (9:25 AM- 9:30 AM)

Witnessed Prehospital Traumatic Arrest: Predictors of Survival to Hospital Discharge | Presenter: Morgan Schellenberg

Session 10 | Brief Podium 31 (9:30 AM- 9:35 AM)

Intubation For Trauma Work-Up in Non-Injured Patients: Increased Length of Stay and Death | Presenter: Areg Grigorian

Session 10 | Brief Podium 32 (9:35 AM- 9:40 AM)

Predicting Respiratory Failure Following Major Elective Operations Using a Machine Learning Model | Presenter: Catherine Williamson

Session 10 | Brief Podium 33 (9:40 AM- 9:45 AM)

Time to Change the Basics: Revisiting Outcomes After Resuscitative Thoracotomy | Presenter: Navpreet Dhillon

Session 10 | Brief Podium 34 (9:45 AM- 9:50 AM)

Combined Arterial and Venous Lower Extremity Injury: Prophylactic Fasciotomy as Surgical Dogma Revisited | Presenter: Areg Grigorian

Session 10 | Brief Podium 35 (9:50 AM- 9:55 AM)

Association Between TXA and Mortality Based on ICH Type in Moderate or Severe TBI | Presenter: William McKinley

Session 10 | Brief Podium 36 (9:55 AM- 10:00 AM)

Resuscitative Endovascular Balloon Occlusion of the Aorta for Non-traumatic Gastrointestinal Bleeding in the US | Presenter: Matthew Ashbrook

Session 11 | Paper 29 (10:00 AM - 10:15 AM)

Gender Equity in Global Surgery: A Comparison of East, Central, and Southern African Nations | Presenter: Huda Muhammad

Session 11 | Paper 30 (10:15 AM - 10:30 AM)

Promoting increased academic productivity of academic general surgery subspecialists | Presenter: Michelle Earley

Session 11 | Paper 31 (10:30 AM - 10:45 AM)

Association of Residency Application Data with Subsequent General Surgery Residency Graduate Performance: A Multi-Institutional Study | Presenter: Amanda Purdy

Session 11 | Paper 32 (10:45 AM - 11:00 AM)

Physiologic recovery and subjective stress of performing operations: the observational whoop study | Presenter: Kenneth Perrone

PASSING OF THE GAVEL AND ADJOURNMENT (11:00 AM – 11:15 AM)

PCSA Scientific Program Highlights and Details

PCSA RESIDENT'S COMPETITION

The top-scoring resident paper from each caucus will be presented during the scientific sessions. Presentations will be judged on clarity, focus and scientific relevance to surgical practice. Prizes will be awarded at the President's Dinner. This year's resident contestants are:

Northern California Caucus
Bridging the Machine-Learning Implementation Gap: LDM Injury Index, A Practical Algorithm to Quantify Injury Severity
Jeff Choi (*Stanford University*)

Oregon/Hawaii Caucus
Impact of Fibrinolysis Phenotype on Patient Outcomes following Traumatic Brain Injury
Samantha Durbin (Oregon Health & Sciences University)

Southern California Caucus
COVID-19 Delay in Screening Colonoscopy Impacts Survival in an Integrated Healthcare System
Jessica Weiss (Providence Health)

Washington/Alaska/British Columbia Caucus
The Outcomes and Health Equity Impact of Telehealth Use for Pediatric Surgery Preoperative Care
Hannah Cockrell (Seattle Children's Hospital)

PCSA NEW MEMBER PRIZE

All New Members are encouraged to submit their abstract for the PCSA New Member Prize Award. The award for the New Member Prize is complimentary registration for the awardee and their guest to the Annual Meeting. This year's New Member Prize Awardee is **Tasce Bongiovanni, MD, FACS** University of California, San Francisco (Northern California Caucus) for the abstract titled *Patient-Level Factors Associated with Screening for Intimate Partner Violence at a Level 1 Trauma Center.*

BRIEF PODIUM SESSIONS

Brief-Podium Presentations will be presented each day in the General Session room over the course of the PCSA Meeting. *Lunch will be "on your own".* There will be a brief question/discussion following each Brief Podium Presentation session.

PRESIDENT'S GREAT DEBATE

Friday, February 3 | 4:00 PM – 5:00 PM

Moderator and Master of Ceremonies: Kenji Inaba

Should cold-stored whole blood or balanced component resuscitation be used for any patient with acute bleeding? Jennifer Gurney vs Martin Schreiber

Is axillary nodal surgery for breast cancer obsolete? Amanda Wheeler vs Kristine Calhoun

Should non-operative management of acute uncomplicated appendicitis be recommended to reproductive age women? Daniel DeUgarte vs David Spain

HISTORIAN PRESENTATION

Saturday, February 4 | 8:00 AM – 8:30 AM

PCSA Historian Dr. Wen Shen will present: *Ghosts of Monterey Bay*.

Industry Support Displays

A commercial display of scientific interest will be available during the Annual Meeting, providing an opportunity for attendees to view products and services from various corporations. Continental breakfasts and refreshment breaks will be served in the exhibit area. Please make sure you safely connect with our industry vendors that are supporting PCSA

PCSA would like to thank the following exhibiting companies:

- Aroa Biosurgery
- BD
- BK Medical
- Castle Biosciences
- Cook Biotech
- Cook Medical
- Fujifilm Healthcare Americas Corporation
- Gore & Associates
- Heron Therapeutics
- Medtronic
- Stryker

Scientific Session Abstracts

Podium Presentations

Session 1

Moderator: Mary Hawn, MD

Session 1 | Podium 01 (7:30 AM - 7:45 AM)

Determining the BMI Threshold for Ventral Hernia Recurrence: A Multi-Institutional County Health Care System Study

James Cook, MD - Harbor-UCLA Medical Center, Ashkan Moazzez, MD, MPH - Harbor-UCLA Medical Center, Jessica Liu, MD, MPH - Harbor-UCLA Medical Center, Amanda Purdy, MD - Harbor-UCLA Medical Center, Chinelo Okafor, HSD - Loma Linda University, Junko Ozao-Choy, MD - Harbor-UCLA Medical Center

Presenter: James Cook **Discussant:** Nalani Grace **Closer:** Junko Ozao-Choy

OBJECTIVE: To identify the BMI threshold at which the risk of recurrence post hernia repair increases.

BACKGROUND: Obesity is a known risk factor for hernia recurrence. However, there is no current consensus on a clear body mass index (BMI) cutoff value for ventral hernia repair.

METHODS: We collected data retrospectively on all patients from a county-wide multi-hospital health system who underwent ventral hernia repair from 2014-2020. We excluded patients with fascial defects <4cm and those who underwent umbilical hernia repair. Data collected included patient and hernia characteristics, medical comorbidities, and intraoperative findings. Bivariate, multivariate regression, and Classification and Regression Tree (CART) analysis were used to determine the BMI threshold at which recurrence risk significantly increased, and other factors associated with recurrence.

RESULTS: 478 patients with a median BMI of 32.5kg/m2 (IQR=6.4) were included. Recurrence rate was 14.4% over a median follow-up interval of 858.5 days (IQR=1252). On CART analysis, BMI>33.67kg/m2 was associated with significantly increased recurrence rates (23.6% vs 8.4%, p<0.001). In multivariate analysis, factors independently associated with increased hernia recurrence rates were BMI>33.67kg/m2 [OR:1.079 (95%CI:1.034-1.125),p<0.001], cirrhosis [OR:3.666 (95%CI:1.015-13.242),p=0.047], and recurrent hernia [OR:2.105 (95%CI:1.20-3.694),p=0.009]. In addition, patients with a BMI>33.67kg/m2 had a significantly increased six-year ventral hernia recurrence rate.

CONCLUSIONS: BMI>33.67kg/m2 was the threshold at which hernia recurrence rate significantly increased in patients after ventral hernia repair in a large county hospital system. This suggests that in a resource-limited hospital system a more stringent BMI cut-off should be considered to determine eligibility for hernia repair.

Session 1 | Podium 02 (7:45 AM - 8:00 AM)

An Objective Assessment of Obesity-related Metabolic Co-morbidities (AOMC) Tool more Accurately Describes Disease Severity

John Arriola, MD - University of California, Davis, Victoria Lyo, MD, MTM - University of California, Davis, Shushmita Ahmed, MD - University of California, Davis, Rouzbeh Mostaedi, MD - University of California, Davis, Aaron Carr, MD - University of California, Davis, Sean Adams, PhD - University of California, Davis, Mohamed Ali, MD - University of California, Davis

Presenter: John Arriola **Discussant:** Daniel Shouhed **Closer:** Hung S. Ho

OBJECTIVE: Compare AOMC to clinical assessments of metabolic diseases

BACKGROUND: Obesity is associated with metabolic comorbidities like diabetes mellitus (DM), hypertension (HTN), and dyslipidemia (DYS). Reporting of comorbidity severity and longitudinal changes are not standardized. We devised a new assessment tool AOMC that objectively measures DM, HTN, and DYS to more accurately stage obesity-related comorbidities than clinical assessments alone.

METHODS: Demographic, clinical, and biochemical data were prospectively collected on adult patients (n=1442) evaluated for bariatric surgery over six years. Comorbidity profiles assessed by the AOMC criteria were compared to traditional clinical parameters.

RESULTS: Most patients were middle-aged (mean 46.2±11.1 years) women (78.2%) with mean BMI of 47.9±9.3 kg/m2. AOMC showed greater prevalence of DM (40.8% vs 36.1%) and less adequate glucose control than clinical assessment (47.1% vs 97.7%). The prevalence of HTN and DYS were similar on AOMC compared to clinical assessments (64.2% vs 64.4% and 44.5% vs 47.3% respectively). However, fewer patients' HTN (71.8% vs 99.3%) and DYS (76.4% vs 65.3%) were adequately controlled on medications. The mean AOMC scores were significantly higher than scores based on clinical assessments (DM 1.92 vs 0.98, HTN 2.60 vs 2.27, DYS 1.78 vs 1.42, all $p<0.01$). Disease severity was upstaged in all patients: DM 65.9%, HTN 42.9%, and DYS 30.9%.

CONCLUSIONS: Our study demonstrated that the severity of DM, HTN and DYS is vastly underrepresented by clinical history alone. Standardized and accurate assessments of comorbidity severity are currently lacking. Our AOMC tool may also be used to more accurately describe longitudinal metabolic response to bariatric surgery.

Session 1 | Podium 03 (8:00 AM - 8:15 AM)

Timed Up and Go Assessment Provides 2-Year Mortality Risk in General and Vascular Surgery Patients

Emanuel Jaramillo - University of California, San Francisco/San Francisco VA Medical Center, Elizabeth De La Rosa, MD - University of California, San Francisco/San Francisco VA Medical Center, James Iannuzzi, MD MPH - University of California, San Francisco/San Francisco VA Medical Center, Lygia Stewart, MD - University of California, San Francisco/San Francisco VA Medical Center

Presenter: Emanuel Jaramillo **Discussant:** Christian de Virgilio **Closer:** Lygia Stewart

OBJECTIVE: To assess the utility of the Timed Up-and-Go (TUG) in the pre-operative setting.

BACKGROUND: Impaired mobility can significantly impact post-operative outcomes. The Timed Up-and-Go (TUG) assessment measures an aspect of frailty. We utilized TUG assessment as part of a novel, comprehensive frailty assessment, and studied its importance.

METHODS: A prospective frailty assessment quality improvement project (Frail-T) was implemented in general (GS) and vascular surgery (VS)(10/2020-9/2022, level 1 VA Medical Center). TUG groups were: <10, 11-19, >20 seconds. Associations between TUG, Frail-T, mortality, and outcomes were assessed. Cox proportional hazard regression assessed 2-year survival. Administrative Risk Analysis Index (RAI-A) was used for comparison.

RESULTS: 273 patients were assessed (96% male, GS-195 patients, VS-78 patients). 107 underwent surgery (VS-33%, GS-44%), while 7(6.5%) died. A total of 18(6.6%) patients died within 2 years. Patients with TUG>20s were older (mean=74±11 years), more often had cerebrovascular disease, CHF, HTN, diabetes, and ESRD-dialysis($p<0.05$). Longer TUG was significantly associated with 2-year mortality($p<0.001, \chi 2$). On multivariate Cox regression, both TUG 11-19s (HR 3.9, 95%CI 1.0-14.7,$p=0.048$) and >20s (HR 12.9, 95%CI 3.4-49.5,$p<0.001$) was associated with worse survival(Figure 1). Frail-T score>8 was associated with higher mortality (HR 7.4, 95% CI 2.9-18.8,$p<0.001$). Among patients undergoing surgery, Frail-T score>8 was associated with higher mortality (HR 13.6, 95% CI 1.8-101.3,$p=0.01$); while RAI-A frailty level was not(HR 2.4, 95% CI 0.5-10.7,$p=0.26$). TUG also identified non-frail older patients; TUG was associated with higher Frail-T, but not necessarily age (Figure 2).

CONCLUSIONS: TUG is a quick and effective mobility measure that is associated with outcomes, including surgical mortality and long-term survival. Frail-T, using TUG, provides better risk assessment for survival than the RAI-A.

Session 1 | Podium 04 (8:15 AM - 8:30 AM)

The Bascom Cleft-Lift Prevents Recurrence and Accelerates Recovery After Surgery for Pilonidal Disease

Robert Bell, MD - The Permanente Medical Group, Kristin Kanka, DO - The Permanente Medical Group, Rachel Gomez, MD - The Permanente Medical Group

Presenter: Robert Bell **Discussant:** Bard Cosman **Closer:** Swee Teh*

OBJECTIVE: To define morbidity and recurrence rates after Bascom Cleft-Lift (BCL) versus traditional excisions for pilonidal disease in a large group, community practice setting.

BACKGROUND: BCL offers improved long-term outcomes over traditional pilonidal excisions with/without primary closure but concerns about reproducibility and wound morbidity have hindered widespread adoption.

METHODS: Pilonidal operations between January 2017 and December 2021 were reviewed. Clinical and operative variables were assessed. Postoperative complication and recurrence rates were analyzed.

RESULTS: There were 277 operations (170 BCL, 107 traditional excisions) by 26 surgeons. Mean patient age was 26.1 years, BMI was 28.5 kg/m2; 30.7% of patients were female. Median follow-up was 970 days. BCL patients more commonly experienced long-standing disease (53.5% vs 35.5%, p=.005), received peri-operative oral antibiotics (52.9% vs 22.4%, p<.001), and had longer operative times (113.4 vs 53.9 minutes, p<.001). Major wound complication rates did not differ.

BCL patients healed faster (21.5 [IQR 11-62] vs. 30 [16-71] days, p=.046) and had significantly lower recurrence (4.7% vs. 25.2%, p<.001) and re-operation (5.3% vs 16.8%, p<.001) rates. Multivariate analysis demonstrated preoperative hair removal (OR 5.1, p=.004), prior pilonidal surgery (OR 3.6, p=.001), and wound class 4 (OR 2.8, p=.011) as independent predictors of major wound complications. Immunosuppression was an independent predictor of recurrence (OR 3.3, p=.004); BCL was independently protective against recurrence (OR 0.23, p=.005).

CONCLUSIONS: Given its lower recurrence rates and faster healing times without increased risk for early postoperative morbidity, BCL can be the procedure of choice for most patients with pilonidal disease requiring operative intervention.

**Paper Sponsor Swee Teh*

Podium Presentations

Session 2

Moderator: Darren Malinoski, MD

Session 2 | Podium 05 (8:30 AM - 8:45 AM)

Prediction of High-Risk Donors for Kidney Discard using Unstructured Donor Narratives

Junichiro Sageshima, MD - University of California, Davis, Peter Than, MD - University of California, Davis, Naeem Goussous, MD - University of California, Davis, Neal Mineyev, MD - University of California, Davis, Richard Perez, MD - University of California, Davis

Presenter: Junichiro Sageshima **Discussant:** Fady Kaldas **Closer:** Junichiro Sageshima

OBJECTIVE: We aim to evaluate the utility of unstructured free-text data using advanced natural language processing (NLP) architectures in identifying donors at high risk for organ discard.

BACKGROUND: Early identification of difficult-to-place organs may facilitate alternative allocation and improve utilization. Although current algorithms use only structured data, unstructured donor narratives could be useful if new and improved NLP architectures (e.g., Transformers) are used.

METHODS: We trained and validated models using UNOS organ offer data to our center from 2015 to 2020. We then tested the models using 2021 data. The models classified donors who did not have a kidney transplanted at any center and donors who had at least one kidney transplanted. For new NLP, pre-trained models in the medical language (e.g., BiomedNLP-PubMedBERT) were further trained using donor admission courses and medical and social history.

The best model was compared with conventional NLP models using topic modeling and machine learning models using structured data (i.e., donor characteristics).

RESULTS: The train-validation dataset included 9,711 records, and the test dataset included 2,526 records. The BertForSequenceClassification NLP model yielded an F1 score of 79.8% on the test dataset, which was superior to models using conventional NLP (F1 score: 15.9%) and models using structured data (F1 score of Logistic Regression: 42.0%, Naïve Bayes: 41.6%, and Ada Boost: 40.9%).

CONCLUSIONS: Advanced NLP models using the Transformer architectures showed improved classification performance. Further studies with larger datasets are needed to generalize these findings.

Session 2 | Podium 06 (8:45 AM - 9:00 AM)

High KDPI Kidneys in Patients 65 and Older Offer Shorter Wait Times

Fransia De Leon, BA - University of California, Davis, Karima Alghannam, BA - University of California, Davis, Peter Than, MD - University of California, Davis, Aileen Wang, MD - University of California, Davis, Jacquelyn Yu, MD - University of California, Davis, Neal Mineyev, MD - University of California, Davis, Junichiro Sageshima, MD - University of California, Davis, Richard Perez, MD - University of California, Davis, Naeem Goussous, MD - University of California, Davis

Presenter: Naeem Goussous **Discussant:** Mahmoud Malas **Closer:** Richard V. Perez

OBJECTIVE: We aim to evaluate the advantage of accepting a high kidney donor profile index (KDPI) (KDPI>85) compared to low KDPI kidney (KDPI≤85) in patients ages ≥65.

BACKGROUND: Kidney transplantation has been shown to improve life expectancy compared to staying on dialysis. However, there is an ever-expanding shortage of available organs. KDPI is a renal allograft quality score, with lower scores predicting longer graft survival. The use of high KDPI kidneys is one strategy to address the kidney shortage.

METHODS: A single-center retrospective review of all patients ages ≥65 who underwent deceased donor kidney transplantation (DDKT) between 2010-2020 was performed. We compared outcomes and pre-transplant waiting time of recipients receiving low vs. high KDPI kidneys. Data is presented as medians (interquartile ranges) and numbers (percentages).

RESULTS: 492 patients were identified, 317 (64.4%) were males with a median age at transplantation of 69. 405 received low and 87 high KDPI kidneys. Donor and recipient characteristics are presented in the table. There was no significant difference in graft and patient survival between low and high KDPI recipients (figure 1) with 86.9% and 90.8% grafts functioning at a follow-up of 4.0 (2.0-6.0) years, respectively. Pre-transplant wait time was significantly shorter in the high KDPI group, 3.5 (2.3-4.8) vs. 2.7 (1.8-4.1) years, p=0.004.

CONCLUSIONS: In patients ages ≥65 undergoing DDKT, receipt of high KDPI kidneys may offer shorter pre-transplant waiting time without compromising graft or patient survival.

Session 2 | Podium 07 (9:00AM - 9:15AM)

Epstein-Barr Virus-Associated Post-Transplant Lymphoproliferative Disorders in Pediatric Transplantation: A Prospective Multicenter Study in the US

Tetsuya Tajima, MD, PhD, MPH - Division of Abdominal Transplant, Stanford University, Daniel Bernstein, MD - Department of Pediatrics, Stanford University, Scott Boyd, MD, PhD - Department of Pathology, Stanford University, Dita Gratzinger, MD, PhD - Department of Pathology, Stanford University, Grant Lum, MS - Division of Abdominal Transplant, Stanford University, Kazunari Sasaki, MD - Division of Abdominal Transplant, Stanford University, Brent Tan, MD - Department of Pathology, Stanford University, Clare Twist, MD - Department of Pediatric Oncology, Rosewell Park, Kenneth Weinberg, MD - Department of Pediatrics, Stanford University, Mark Robien, MD - National Institute of Allergy and Infectious Diseases, Merideth Brown, MS - National Institute of Allergy and Infectious Diseases, Brian Armstrong, MS - Rho, Dev Desai, MD, PhD - Division of Surgical Transplantation, UT Southwestern Medical Center, George Mazariegos, MD - Division of Pediatric Transplantation, UPMC Children's Hospital, Clifford Chin, MD - Department of Pediatrics and Cincinnati Children's Hospital, Thomas Fishbein, MD - Departments of Surgery and Pediatrics, Georgetown University, Akin Tekin, MD - Department of Surgery, University of Miami Miller School of Medicine, Robert Venick, MD - Department of Pediatric Gastroenterology, David Geffen School of Medicine, Olivia Martinez, PhD - Division of Abdominal Transplant, Stanford University, Sheri Krams, PhD - Division of Abdominal Transplant, Stanford University, Carlos Esquivel, MD, PhD - Division of Abdominal Transplant, Stanford University

Presenter: Tetsuya Tajima **Discussant:** John Vetto **Closer:** Carlos O. Esquivel

OBJECTIVE: To elucidate characteristics for early detection of Epstein-Barr virus (EBV)-associated post-transplant lymphoproliferative disorders (PTLD) in children.

BACKGROUND: EBV-associated PTLD is the most common malignancy in children after transplant; however, early detection is still challenging, which may result in a worse prognosis.

METHODS: This prospective, multicenter, study enrolled 944 children (≤ 21 years of age). Of these, 872 received liver, heart, kidney, intestinal, or multivisceral transplants in 7 US centers between 2014, and 2019 (NCT02182986). In total, 34 pediatric EBV+ PTLD (3.9%) were identified by biopsy. Sex, age, race, ethnicity, organ, EBV viral load, EBV serology, immunosuppression, response to chemotherapy and rituximab, and histopathological diagnosis were analyzed.

RESULTS: Twenty-one patients with destructive PTLD (monomorphic and polymorphic) and 13 patients with nondestructive PTLD (early lesion) were documented. Patients ≥ 5 years of age at transplant had more destructive than nondestructive PTLD (P= 0.047). Thirteen patients (62%) developed destructive PTLD within the first post-transplant year (Median: 5.3 months, SEM: 4.2 months). Destructive PTLD patients had detectable EBV by PCR more frequently than nondestructive PTLD patients within six months (P=0.04). Recipients developed significantly more destructive PTLD than nondestructive PTLD within six months after transplant (P=0.002). EBV viral load at PTLD diagnosis was significantly higher in destructive than in nondestructive PTLD patients (P=0.04).

CONCLUSIONS: Destructive PTLD had significantly earlier onset and higher EBV viral load within six months post-transplant than nondestructive PTLD. Close follow-up of EBV within six months after transplant, especially in children ≥5 years, may facilitate early detection of destructive PTLD.

Session 2 | Podium 08 (9:15AM - 9:30AM)

Disordered Sleep in Adolescents Recovering from Surgery

Marjorie Odegard, MD - Children's Hospital Los Angeles, Shadassa Ourshalimian, MPH - Children's Hospital Los Angeles, Jessica Barrington-Trimis, PhD - Keck School of Medicine of University of Southern California, Olivia Keane, MD - Children's Hospital Los Angeles, Eugene Kim, MD - Children's Hospital Los Angeles, Lorraine Kelley-Quon, MD - Children's Hospital Los Angeles

Presenter: Marjorie Odegard **Discussant:** Payam Sadaai **Closer:** Lorraine Kelley-Quon

OBJECTIVE: To identify factors associated with disordered sleep among adolescents undergoing surgery.

BACKGROUND: Adequate sleep is essential for postoperative recovery. Among adults, there is an association between chronic opioid use and sleep disorders. However, sleep patterns among adolescents using opioids for postoperative acute pain are unknown.

METHODS: Adolescents aged 13-20y undergoing surgery were recruited from a tertiary children's hospital, completing a preoperative survey measuring clinical, mental health (e.g., depression, anxiety), and sociodemographic factors, and two postoperative surveys at 30- and 90-days. All surveys administered the Sleep Problems Questionnaire (SPQ). Simple logistic regression and mixed effects models identified factors associated with disordered sleep trajectories at baseline, 30-, and 90-days postoperatively.

RESULTS: Overall, 167 adolescents (median age=15y, 64% female) completed the SPQ with 27(16.2%) reporting disordered sleep preoperatively and 41(24.6%) reporting disordered sleep postoperatively (Figure). On simple logistic regression, adolescents were 2.20 times more likely to report disordered sleep postoperatively compared to before surgery (95%CI:1.42-3.40). Prescription opioid use postoperatively was not associated with new disordered sleep after surgery (OR=1.33; 95%CI:0.38-4.68). Preoperative disordered sleep ($p<0.001$), time after surgery ($p<0.001$), and presence of a mental health comorbidity ($p=0.005$) were associated with worsening sleep score after surgery.

CONCLUSIONS: Compared to sleep scores preoperatively, adolescents are more likely to report disordered sleep following surgery. Increases in disordered sleep trajectories are associated with preoperative disordered sleep and mental health comorbidities but are not associated with postoperative opioid use. Further research to understand mechanisms driving adolescent disordered sleep and interventions to reduce sleep disturbances after surgery are needed.

Brief Podium Presentations

Session 3

Moderators: Lorrie Langdale, MD

Nicole Zern, MD

Session 03 | Brief Podium 01 (10:00 AM- 10:05 AM)

Electromagnetic Navigational System Lowers Positive Margin Rate in Breast Conservation Surgery Compared to Wire Localization

Lorena Gonzalez, MD - City of Hope, Natalie Johnson, MD - City of Hope, Veronica Jones, MD - City of Hope National Medical Center, Jamie Rand, MD - City of Hope, Katharine Schulz-Costello, DO - City of Hope, Lesley Taylor, MD - City of Hope, Yuman Fong, MD - City of Hope, Laura Kruper, MD, MS - City of Hope

Presenter: Lorena Gonzalez

OBJECTIVE: Our aim was to compare margin positivity using a new wireless electromagnetic (EM) navigational system versus traditional wire localization (WL).

BACKGROUND: Wireless localization for breast conservation surgery improves patient comfort and scheduling efficiency with comparable technical efficacy to WL. However, the impact of wireless localization techniques on positive margin rates is not well defined.

METHODS: We performed a retrospective study of all patients who underwent WL or EM seed localization for breast cancer over 27 months. Localization technique was per surgeon's discretion. Localization cohorts were compared using t-test for continuous variables and Fisher's exact or Chi-square for categorical variables. Multivariable logistic regression identified predictors of margin status.

RESULTS: In total, 165 patients underwent 174 partial mastectomies; 101 (58%) using WL and 73 (42%) using EM seed. Cohorts were similar except for higher prevalence of intraductal carcinoma in the WL group and invasive ductal carcinoma in the EM seed group. The positive margin rate was 32.7% in the WL group versus 16.4% in the EM seed group (p=0.022). In multivariable analysis, EM seed localization (OR=0.33, [0.13-0.82], p=0.016) and excising 4 or more cavity shave margins (OR=0.33, [0.14-0.79], p=0.013) were associated with lower margin positivity while increasing pathologic tumor size (OR=1.1, [1.04-1.16], p<0.001) was associated with higher margin positivity.

CONCLUSIONS: EM navigation decreases positive margin rates in breast conservation surgery compared to WL. Excising lumpectomy cavity shave margins may improve margin status regardless of localization technique. This represents early emerging data on the clinical use of EM navigation in breast surgery.

Session 03 | Brief Podium 02 (10:05 AM- 10:10 AM)

Survival After Contralateral Secondary Breast Cancer by Age Group in California

Lauren Perry, MD - Department of Surgery, University of California, Davis, Theresa HM Keegan, PhD - Center for Oncology Hematology Outcomes Research and Training (COHORT), Qian Li, MS - Center for Oncology Hematology Outcomes Research and Training (COHORT), Richard Bold, MD, MBA - Department of Surgery, University of California, Davis, Frances Maguire, PhD, MPH - California Cancer Reporting and Epidemiologic Surveillance Program, Candice AM Sauder, MD - Department of Surgery, University of California, Davis

Presenter: Lauren Perry

OBJECTIVE: To compare survival between primary breast cancer and contralateral secondary breast cancer.

BACKGROUND: Secondary cancers account for 16% of new cancer diagnoses, with breast cancer (BC) most common and having poorer survival than primary BC (pBC). Additionally, BC survivors develop contralateral secondary BC (CSBC) at twice the rate as the general population. Survival differences between pBC and CSBC could influence future counseling and treatment for patients with a history of prior BC.

METHODS: Women (>15 years) diagnosed with pBC from 1991-2015 in the California Cancer Registry (n=377,176) were compared to those with CSBC (n=15,586) by age group (15-39, n=406; 40-64, n=6,814; >65, n=8,366). Multivariable logistic regression models assessed factors associated with CSBC. Multivariable Cox proportional hazards regression models assessed BC-specific survival, while accounting for the competing risk of death.

RESULTS: Younger patients with CSBC more commonly underwent mastectomy (61%) and chemotherapy (54%) than middle-age (56%, 42%) and older women (46%, 16%). Across all ages, CSBC patients were less likely to have larger tumors (15-39, Odds Ratio (OR): 0.25, confidence interval (CI) 0.16-0.38; 40-64, OR 0.41, CI 0.37-0.45; >65, OR 0.46, CI 0.42-0.51) and lymph node-positive disease (15-39, OR: 0.86, CI 0.69-1.08; 40-64, OR 0.88, CI 0.83-0.93; >65, OR 0.89, CI 0.84-0.94). For all ages, CSBC was associated with worse survival compared to pBC (15-39, Hazard Ratio (HR): 2.73, CI 2.30-3.25; 40-64, HR 2.13, CI 2.01-2.26; >65, HR 1.52, CI 1.43-1.61).

CONCLUSIONS: Worse survival after CSBC across all ages despite good prognostic factors suggests that CSBC may be biologically distinct and need treatment reconsideration.

Session 03 | Brief Podium 03 (10:10 AM- 10:15 AM)

Surveillance Strategies Following Prophylactic Nipple Sparing Mastectomy in BRCA Mutation Carriers.

Christina Weed, MD, MPH - Cedars-Sinai Medical Center, Ton Wang, MD, MS - Cedars-Sinai Medical Center, Shelby Chun Fat, MD - Cedars-Sinai Medical Center, Alice Chung, MD - Cedars-Sinai Medical Center, Marissa Boyle, MD - Cedars-Sinai Medical Center, Armando Giuliano, MD - Cedars-Sinai Medical Center, Farin Amersi, MD - Cedars-Sinai Medical Center, Charlotte Rajasingh, MD – Stanford University, Sherry Wren, MD - Stanford University, Vanitha Raguveer, BS - University of Illinois - Chicago, Nakul Raykar, MD MPH - Brigham and Women's Hospital

Presenter: Christina Weed

OBJECTIVE: To characterize surveillance strategies following prophylactic nipple sparing mastectomy and identify opportunities for standardization.

BACKGROUND: Prophylactic nipple-sparing mastectomy (pNSM) is increasingly being performed in patients with BRCA1 or 2, however, optimal postoperative surveillance for these patients has not been defined.

METHODS: A prospectively maintained database identified 99 patients with BRCA mutations who underwent bilateral pNSM with implant-based or autologous tissue reconstruction between 2008- 2021 at an academic tertiary institution. Clinical data on postoperative breast surveillance was collected including frequency of clinical breast exams (CBE), imaging, biopsies, rates of incidental breast cancers (BC) or atypia, and the incidence of new BC. Kaplan-Meier was used to evaluate overall survival.

RESULTS: 198 pNSMs were performed on 99 patients – 59 (59.6%) with BRCA1 mutations and 40 (40.4%) with BRCA2. Median age was 41 (range, 22-64) years. One (1%) patient had incidental invasive ductal carcinoma, 4 (4%) DCIS, and 7 (7%) atypia. Post-operatively, 67 (67.7%) patients were followed with CBE alone; 5 (5.1%) had baseline breast MRI and annual CBE; 4 (4.0%) had annual MRI and CBE; and 23 (23.2%) had annual CBE with MRI and/or ultrasound performed at irregular intervals. At a median follow up of 37.3 (Interquartile range, 38-151) months, no patients developed a new BC and all patients were alive. Patients found to have incidental BC or atypia after NSM were not followed differently than patients without atypia or cancer.

CONCLUSIONS: Incidence of BC following pNSM is a rare event and does not require imaging-based surveillance.

Session 03 | Brief Podium 04 (10:15 AM- 10:20 AM)

Review of Operative Report Documentation to Audit Surgical Coding

Michael Wilkinson, MD - Loma Linda University Health, Sharon Lum, MD, MBA - Loma Linda University Health, Nephtali Gomez, MD - Loma Linda University Health, Mark Reeves, MD, PhD - Loma Linda University Health, Jukes Namm, MD - Loma Linda University Health, Carlos Garberoglio, MD - Loma Linda University Health, Naveenraj Solomon, MD - Loma Linda University Health, Halley Vora, MD - Loma Linda University Health, Fabrizio Luca, MD - Loma Linda University Health, Allison Aka, MD - Loma Linda University Health, David Caba, MD, MS, MPH - Loma Linda University Health, Michael O'Leary, MD - Loma Linda University Health

Presenter: Michael Wilkinson

OBJECTIVE: To audit surgical coding based on complete operative reports for the most common procedures performed.

BACKGROUND: Current operative reporting lacks standardization which results in variability in surgical coding.

METHODS: A retrospective review of the six most common procedures performed 1/1/2022 through 3/31/2022 in the surgical oncology division at an academic medical center was performed. Actual Current Procedural Terminology (CPT) codes, work Relative Value Units (wRVUs), and overall charges for each case were collected. Given the variability in charges, an average charge per wRVU was calculated based on the historical data. Complete operative reports for each procedure were reviewed for CPT coding accuracy. Revised CPT codes and their associated wRVUs and charges were compared to actual billing history. No modifiers were applied.

RESULTS: Review of 169 operative reports yielded an additional 252 CPT codes overall, correlating with an additional 1,130.53 wRVUs and $293,202.96 in calculated charges. There was a significant difference in actual versus revised wRVUs in chemoport insertion (6.27 versus 6.75, p=.01), partial mastectomy (12.7 versus 16.1, p=<.001), total mastectomy (25.04 versus 33.2, p=<.001), and pancreaticoduodenectomy (62.25 versus 103.11, p=.02). No significant difference was observed for hepatectomy (40.28 versus 70.27, p=.24) or gastrectomy (30.71 versus 51.52, p=.07) (Table 1).

CONCLUSIONS: The current practice of operative reporting lacks standardization which results in variability in coding, wRVUs, and charges. This variability may underreport additional non-bundled CPT codes for procedures. Future studies should address whether standardized or synoptic operative reports, billing and coding training for surgeons and coders, and operative report education can reduce variability.

Session 03 | Brief Podium 05 (10:20 AM- 10:25 AM)

Small Victories: Microlearning through Animation is an Effective Tool in Surgical Education

Cintia Sakurai Kimura, MD PhD - Stanford University, Department of Surgery, Caitlin Bungo, BS - Stanford University, Department of Surgery, Tiffany Yue, MD - Stanford University, David Hindin, MD - Stanford University, Department of Surgery, Jonathan deLong, MD - Stanford University, Department of Surgery, Brooke Gurland, MD - Stanford University, Department of Surgery

Presenter: Cintia Kimura

OBJECTIVE: To evaluate whether a 2-minute animation could facilitate knowledge transfer and retention.

BACKGROUND: Microlearning is an approach in which content is delivered in small self-contained learning units. We hypothesized that a short animation would facilitate knowledge transfer and retention regarding a surgical pathology.

METHODS: A short animation (100 seconds) on rectal prolapse and rectocele was developed based on the principles of microlearning. A survey containing the video and pre- and post-video quizzes on rectal prolapse and rectocele was distributed to health professions students. Kirkpatrick's evaluation framework was used to assess pedagogical outcomes on the first two levels (reaction and learning).

RESULTS: A total of 115 students answered the entire survey. Most of them (82%) were MD or DO students, were in their second or third year (76%), and between 22 and 25 years old (57%). Video was a major source of surgical education for 70% of respondents. Regarding reaction, the median time spent on the video was 40.5 seconds (IQR 74.5), and 81% agreed or strongly agreed that the video explained the concepts clearly. Among students who spent 40 seconds or more on the video, 76% (44/58) went from extremely or somewhat uncomfortable to either somewhat or extremely comfortable in explaining the concept of rectal prolapse. Regarding learning, 74% (43/58) increased their score or remained at the maximum score in the post-video quiz.

CONCLUSIONS: Microlearning through animation was well accepted among students and contributed to knowledge transfer and short-term retention.

Session 03 | Brief Podium 06 (10:25 AM- 10:30 AM)

Pacific Northwest (PNW) Perspectives on the National Accreditation Program for Rectal Cancer (NAPRC)

Anjali Kumar, MD MPH - Washington State University, Elson S. Floyd College of Medicine, Brian Kim, MD - Virginia Mason Franciscan Health, Shi Min Tan, MS - Washington State University, Elson S. Floyd College of Medicine, Mark Whiteford, MD - The Oregon Clinic

Presenter: Anjali Kumar, MD

OBJECTIVE: Investigation of perceived barriers to NAPRC accreditation among PNW providers.

BACKGROUND: The NAPRC of the American College of Surgeons Commission on Cancer sets standards for treatment of rectal cancer to ensure patients receive appropriate care. Since the promotion of these standards in 2017, adoption rates have been low, especially in the Pacific Northwest (PNW). Currently, there are 62 accredited programs; only 3 in the PNW.

METHODS: Colorectal (CR) surgeons were identified using the American Board of Colon and Rectal Surgery directory. With IRB approval, we conducted semi-structured interviews with CR surgeons and program coordinators about the NAPRC, their opinions on the accreditation process, and barriers to accreditation. Interviews were transcribed and coded by themes using qualitative data analysis software, Dedoose.

RESULTS: Responses from 16 colorectal surgeons and 3 program coordinators from 13 different PNW institutions were culled. Coded themes analysis grouped strengths and barriers of accreditation. Strengths included standardization and improved quality of care, increased transparency between providers, and market advantage. Barriers included high cost, scheduling/logistical burdens, and marginalization of smaller institutions.

CONCLUSIONS: Providers and hospitals can be recognized for their high standards of rectal cancer care by obtaining NAPRC accreditation. The majority of study participants are desirous of obtaining accreditation. Potential theories of why there is low adoption rate in the PNW include: infancy of the program, the absence of need for market competition, and small perceived return on investment. Identification of these barriers can inform leaders of NAPRC to consider alternative options which recognize providers who uphold the standards of care.

Session 03 | Brief Podium 07 (10:30 AM- 10:35 AM)

Travel Distance Affects Management of Patients with Malignant Bowel Obstruction

Beatrice Sun, MD - Stanford University, Tiffany Yue, BS - Stanford University, Nova Xu, BS - Stanford University, Kevin Einkauf, BS - Stanford University, Byrne Lee, MD - Stanford University

Presenter: Beatrice Sun

OBJECTIVE: To compare management patterns including interventions, outcomes, and mortality in patients treated for malignant bowel obstruction, by distance from a tertiary academic hospital.

BACKGROUND: Malignant bowel obstruction (MBO) is a complication of advanced malignancies. Management focuses on palliation of symptoms, although determining the optimal treatment strategy is challenging and variable by institution. The association between distance/access to a tertiary hospital and management/outcomes remains unclear.

METHODS: A 5-year retrospective review was performed to identify patients with peritoneal carcinomatosis admitted for MBO at a single tertiary academic institution. Patients were categorized as living NEAR (≤ 50 miles) or FAR (> 50 miles). Treatment modalities, mortality, and other outcomes were analyzed.

RESULTS: 210 patients admitted with MBO were identified, with 137 NEAR and 73 FAR. The FAR group was younger (56 vs 63 years), had higher BMI (25 vs 22), and higher inpatient transfer rate (22% vs 8%). Gender, functional status, and location of bowel obstruction were similar between groups. FAR had more surgeries (36% vs 20%, $p=0.017$), higher complication rate (19% vs 4%, $p<0.001$) and longer length of stay (13 days vs 9 days, $p=0.002$). There was no difference in readmission rates, return to cancer therapy, or mortality.

CONCLUSIONS: Patients who live farther from a tertiary hospital have higher rates of surgical management, complications, and longer admissions for MBO. Further studies are needed to understand why distance impacts management. Resources to improve palliative care and end of life decision making may help decrease acuity and need to travel for MBO patients.

Session 03 | Brief Podium 08 (10:35 AM- 10:40 AM)

Disparities in Access, Quality, and Clinical Outcome for Hispanic Californians with Colon Cancer

Aaron Dawes, MD, PhD - Stanford University, Ganesh Rajasekar, MPH – Stanford University-Surgical Policy Improvement Research and Education Center, Amber Trickey, PhD, MS, CPH – Stanford University-Surgical Policy Improvement Research and Education Center, Alex Sox-Harris, PhD – Stanford University-Surgical Policy Improvement Research and Education Center, Todd Wagner, PhD – Stanford University-Surgical Policy Improvement Research and Education Center, Arden Morris, MD, MPH - Stanford University

Presenter: Aaron Dawes

OBJECTIVE: To compare access, quality, and clinical outcomes between Hispanic and non-Hispanic Californians with colon cancer

BACKGROUND: Racial disparities in cancer care remain understudied, particularly among patients who identify as Hispanic. Exploring potential mechanisms, including differences in access and quality of care, is an essential first step to designing evidence-based policy solutions.

METHODS: We identified all patients diagnosed with colon cancer in California between 2010-2018 from the California Cancer Registry and linked hospitalization records from the Department of Health Care Access and Information. We compared survival as well as multiple access and quality indicators between Hispanic and non-Hispanic whites while controlling for demographics, comorbidities, and socioeconomic factors.

RESULTS: 82,336 patients were diagnosed with colon cancer during the study period, including 17,234 patients who identified as Hispanic (20.9%). Hispanic patients had higher risk-adjusted survival rates (hazard ratio 0.89, 95%CI 0.86-0.93) despite being more likely to be diagnosed at a later stage (odds ratio 1.06, 95%CI 1.02-1.10) and less likely to undergo definitive surgery (OR 0.84, 95%CI 0.73-0.98). Hispanics were also more likely to require urgent surgery (40.9 vs 38.9%) and less likely to be treated at a nationally accredited cancer center (46.3 vs 53.2%). Among treated patients, Hispanics had longer time intervals between diagnosis and all treatment modalities (definitive surgery 28.3 vs 26.0 days, adjuvant chemotherapy 48.1 vs 46.5 days, and definitive chemotherapy 53.5 vs 51.0 days). All results were statistically significant to $p<0.05$.

CONCLUSIONS: Hispanic Californians with colon cancer have higher risk-adjusted survival rates than non-Hispanic whites despite delays and non-receipt of recommended care.

Session 03 | Brief Podium 09 (10:40 AM- 10:45 AM)

Disparities in Melanoma Outcomes for People of Color are Mitigated in a Integrated Healthcare System

Jeffery Chakedis, MD - The Permanente Medical Group, Maris Jones, MD - The Permanente Medical Group, Alpana Soni, MD - The Permanente Medical Group, Melinda Mortenson, MD - The Permanente Medical Group, Amanda Graff-Baker, MD - The Permanente Medical Group, Maihgan Kavanagh, MD - The Permanente Medical Group

Presenter: Maris Jones

OBJECTIVE: We compared the survival of POC to Caucasian patients to identify if disparities between racial groups exist in our health system.

BACKGROUND: Despite advances in melanoma outcomes for all patients, poor survival after diagnosis for people of color (POC) have been reported.

METHODS: Adult patients diagnosed with cutaneous melanoma from 2006 to 2016 were reviewed retrospectively and analyzed by self-identified race using ANOVA and chi-square analysis. Kaplan Meier (KM) and Cox proportional hazard modeling were used for comparing survival between races.

RESULTS: The majority of patients (n=10,537) were Caucasian (n=10,174, 96.6%) and POC made up 3.4% (31 (0.3%) African American (AA), 106 (1.0%) Asian/Pacific Islander (API), 210 (2.0%) Hispanic). API and Hispanic patients present at an earlier age (mean 55.5 and 54.6 years) compared to Caucasian patients (63.3 years, p <0.001). AA and API patients presented with majority lower limb primaries (64.5%, 37.5%) and increased stage III and IV (27.8%, 25.1%) compared to Caucasian patients. Ulcerated primaries were more common for all POC. With a median follow-up of 6.7 years, KM analysis found differences in disease free and overall survival between races (Figure 1, p-value = 0.008). However, using Cox proportional hazard model analysis and adjusting for known melanoma prognostic factors (including age, ulceration, stage, and primary site) there is no effect of race on disease free or overall survival.

CONCLUSIONS: The incidence of melanoma in POC is low and presentation differs by race. After adjusting for known melanoma prognostic factors, disparity in outcomes were mitigated for POC in a large integrated healthcare system.

Session 03 | Brief Podium 10 (10:45 AM- 10:50 AM)

Atypical Parathyroid Adenomas have a Genetic Background Consistent with Benign Parathyroid Adenomas

Michelle Mulder, MD - University of California, San Francisco, Timothy Ullmann, MD - University of California, San Francisco, Stephanie Davis, MD - University of California, San Francisco, Taufiq Rajwani, MD - University of California, San Francisco, Elham Khanafshar, MD - University of California, San Francisco, Wen Shen, MD, MA - University of California, San Francisco, Jessica Gosnell, MD - University of California, San Francisco, Sanziana Roman, MD - University of California, San Francisco, Julie Ann Sosa, MD, MA - University of California, San Francisco, Quan-Yang Duh, MD - University of California, San Francisco

Presenter: Michelle Mulder

OBJECTIVE: We hypothesized that next generation sequencing (NGS) of APAs could provide insight into their malignant potential.

BACKGROUND: Atypical parathyroid adenomas (APA) are rare intermediate risk tumors constituting 1% of primary hyperparathyroid(PHPT) pathology. The aggressiveness of parathyroid carcinomas(PC) mandate extensive resection and follow-up that is different from parathyroid adenomas(PA). The virulency of APAs is unknown.

METHODS: Targeted NGS was performed on all surgical specimens categorized as APAs at a high-volume endocrine surgery institution from 2020-2022. NGS consisted of a targeted panel of approximately 500 genes associated with PA, PC, and other visceral malignancies. Demographics and clinical data were retrospectively acquired and expressed as mean (±SD).

RESULTS: Eighteen patients underwent surgical resection of APAs during the study period. Half were female, age 61(±14.1) years. All had elevated PTH (154[± 99.1]pg/mL) and calcium (11.2[±0.86]mg/dL) levels consistent with PHPT. Focused unilateral resection was performed in 14 patients (77%). Genetic alterations were identified in 14 patients (77%), with MEN1 as the most commonly mutated gene (22%) followed by PIK3CA(11.1%)(Table 1). One patient (5.6%) had a somatic CASR mutation. No samples had mutations in CDC73. Multiple tumors had mutations in canonical PA pathways, including genes regulating chromatin accessibility, mTOR signaling, and mitochondrial activity. All patients were biochemically cured of their disease, with no recurrences in six-month follow-up.

CONCLUSIONS: The mutational background of atypical parathyroid adenomas was more consistent with published NGS results in parathyroid adenomas than carcinomas. We report the first identified somatic CASR mutation in an APA. Our findings showed that APAs have similar genetic background and likely behave similarly to PAs.

Session 03 | Brief Podium 11 (10:50 AM- 10:55 AM)

The Role of Adjuvant Radiation Therapy in Surgically Resected Stage III Merkel Cell Carcinoma

Seyed Pairawan, MD - Loma Linda University Health, Naveenraj Solomon, MD - Loma Linda University Health, David Caba-Molina, MD, MS, MPH - Loma Linda University Health, Michael O'Leary, MD - Loma Linda University Health, Mark Reeves, MD, PhD - Loma Linda University Health, Carlos Garberoglio, MD - Loma Linda University Health, Jukes Namm, MD - Loma Linda University Health

Presenter: Seyed Saeed Pairawan

OBJECTIVE: We sought to investigate the impact of adjuvant radiation therapy (aRT) on overall survival (OS) in surgically resected stage III MCC.

BACKGROUND: Lymph node (LN) metastasis portends a poor prognosis in Merkel cell carcinoma (MCC).

METHODS: The National Cancer Database was used to identify patients between 2004 and 2016 with stage III MCC who underwent definitive surgical resection of the primary lesion and regional lymph nodes (LN). Prognostic factors were analyzed with univariate and multivariate analysis. OS was analyzed using Kaplan-Meier and Cox proportional hazard models.

RESULTS: We analyzed 2683 patients with a median age of 74 years with the majority treated at an academic center (52.3%). Most patients received aRT (67%) with 18% to the LN basin. Those who received aRT had a longer median OS (53 vs 38 months, $p<0.0001$). Patients <70 years, with ≤T2 tumors, and ≥2 positive LN were more likely to receive aRT on both univariable and multivariable analysis (age <70 years, OR 1.3, $p<0.001$; ≤T2, OR 1.3, $p=0.005$; ≥2 positive LN, OR 1.3, $p=0.002$). White race (HR 1.9, $p=0.04$), ≥2 positive LN (HR 1.4, $p<0.001$), and no aRT (HR 1.2, $p<0.001$) were associated with worse OS. In patients who underwent sentinel LN dissection, completion LN dissection, demonstrated better OS compared to aRT alone to the nodal basin ($p<0.001$).

CONCLUSIONS: In patients with resected stage III MCC, aRT is associated with improved OS. This benefit seems to be driven by radiation to the primary tumor site. For the regional LN, surgical management should be recommended.

Session 03 | Brief Podium 12 (10:55 AM- 11:00 AM)

Quality of Life After Pancreatoduodenectomy: Is the Outcome Predetermined by the Diagnosis?

Trevor Silva, MD - Riverside University Health System, Annie Lo, MD - Kaiser Permanente Los Angeles, Siu-Yuan Huang, MD - Kaiser Permanente Los Angeles, Adeel Ashfaq, MD - Kaiser Permanente Los Angeles, Amy Wagler, PhD - The University of Texas at El Paso, Daniel Nelson, DO - William Beaumont Army Medical Center, Victoria O'Connor, MD - Kaiser Permanente Los Angeles

Presenter: Trevor Silva

OBJECTIVE: Using a standardized survey instrument, we compared postoperative QoL among patients undergoing PD for either benign or malignant pathology.

BACKGROUND: Significant morbidity and mortality are no longer the norm after pancreatoduodenectomy (PD). Non-physiological factors tied to the disease process may drive the diminished quality of life (QoL) after PD.

METHODS: From 2012-2021, 228 patients underwent PD in the Southern California Kaiser Permanente Healthcare System. Eighty-two patients (36.0%) were interviewed using the EORTC QLQ-C30 questionnaire and procedure-specific ad hoc questions. A minimum of six months after surgery was required for the survey. QoL outcomes were compared based on diagnosis (benign vs. malignant).

RESULTS: Patient mean age was 65 years (21-82), and forty-seven (57%) were men. Most patients underwent surgery for cancer, 76% (n=62), and chemotherapy was received in 74%. Mean time from surgery to survey was similar (p=0.8). Grade B post-operative pancreatic fistula (POPF) incidence was higher in benign cases (30% vs 6.5%, p=0.024). Weight loss was more common in malignancy (79% vs 50%, p=0.016). Carcinoma patients felt less useful, hopeful, reported less control of their life and certainty of the future, and were less satisfied with their appearance. Carcinoma patients also reported diminished memory, fear of relapse, and greater financial burden.

CONCLUSIONS: Long-term QoL is inferior in PD patients with carcinoma and is driven by the psychological and socioeconomic implications of malignancy with a poor prognosis. These findings can facilitate appropriate counseling of pancreatectomy patients by healthcare providers. Supportive resources for pancreas cancer patients should be evaluated and optimized.

Podium Presentations

Session 4

Moderator: Gagandeep Singh, MD

Session 4 | Podium 09 (1:30PM - 1:45PM)

Can Predictors of Upstage to Malignancy in Atypical Ductal Hyperplasia Identify a Low-Risk Cohort?

Alexandra Greene, MD, MA Ed - Los Angeles County DHS - Harbor-UCLA Medical Center, Joshua Davis, MD - Los Angeles County DHS - Harbor-UCLA Medical Center, Jessica Moon, MD - Los Angeles County DHS - Harbor-UCLA Medical Center, Iram Dubin, MD - Los Angeles County DHS - Olive-View-UCLA Medical Center, Anastasia Cruz, MD - Los Angeles County DHS - LAC + USC Medical Center, Megha Gupta, MD - Los Angeles County DHS - LAC + USC Medical Center, Ashkan Moazzez, MD, MPH - Los Angeles County DHS - Harbor-UCLA Medical Center, Junko Ozao-Choy, MD - Los Angeles County DHS - Harbor-UCLA Medical Center, Esha Gupta, MD - Los Angeles County DHS - High Desert Regional Health Center, Tejas Manchandia, MD - Los Angeles County DHS - LAC + USC Medical Center, Babak Kalantari, MD - Los Angeles County DHS - Harbor-UCLA Medical Center, Guita Rahbar, MD - Los Angeles County DHS - Olive-View-UCLA Medical Center, Christine Dauphine, MD - Los Angeles County DHS - Harbor-UCLA Medical Center

Presenter: Alexandra Greene **Discussant:** Nathalie Johnson **Closer:** Christine Dauphine

OBJECTIVE: To analyze a multi-institutional cohort to elucidate factors predictive of ADH upstage and to potentially identify a group at low upstage risk.

BACKGROUND: Surgical excision is recommended for atypical ductal hyperplasia (ADH) found on core biopsy since upstage to cancer occurs in 29%. Efforts to determine predictors of upstage have been limited by low power. The impact of near-complete core sampling on upstage is not well-studied. Identifying a cohort at low risk for upstage may enable avoidance of low-value surgery.

METHODS: Multicenter, retrospective study of breast ADH diagnosed by core needle biopsy from January 1, 2015, to August 31, 2019. Radiologic, pathologic, procedural, and clinical factors were analyzed for upstage risk. Radiologist re-review of imaging was performed to determine near-complete sampling (>90% removal of mammographic lesion).

RESULTS: In 221 ADH lesions, upstage occurred in 37 (16.7%). Factors predictive of upstage were lesion size ≥ 10mm (OR 1.04; 95% CI: 1.01-1.08, p=0.018), pathologic suspicion for Ductal Carcinoma in Situ (DCIS) (OR 8.98; 95% CI: 2.67-30.18, p <0.001), and calcification distribution pattern (OR 5.62; 95% CI: 1.27-24.82 "regional" and 18.7; 95% CI: 3.70-94.54 "linear", p = 0.008). Near-complete sampling resulted in upstage in 14.5% vs. 17.3% (p = 0.64). All three significant predictors were absent in 69 (31.2%) cases, with an upstage rate of 1.4%.

CONCLUSIONS: The rate of ADH upstage was 16.7%, highest in lesions ≥10mm, pathologic suspicion of DCIS, and linear/regional calcifications. Conversely, 31% of the cohort exhibited all low-risk factors, with an upstage rate of just 1%, suggesting that observation may be permissible.

Session 4 | Podium 10 (1:45 PM - 2:00 PM)

Minimally Invasive Recovery Program in the Era of Minimally Invasive Gastrectomy for Gastric Cancer

Sharon Shiraga, MD - The Permanente Medicine Gastric Cancer Surgery Group, Robert Li, MD - The Permanente Medicine Gastric Cancer Surgery Group, Jessica Lee, MD - The Permanente Medicine Gastric Cancer Surgery Group, David Le, MD - The Permanente Medicine Gastric Cancer Surgery Group, Fawzi Khayat, MD - The Permanente Medicine Gastric Cancer Surgery Group, Swee Teh, MD - The Permanente Medicine Gastric Cancer Surgery Group

Presenter: Swee Teh **Discussant:** Jukes Namm **Closer:** Swee Teh

OBJECTIVE: To determine if implementing a Minimally Invasive RECovery Program (MIREC) in the era of Minimally Invasive Gastrectomy (for cancer) is feasible, safe, and effective.

BACKGROUND: In 2016, a MIREC program was implemented in NCKP for patients who underwent curative-intent minimally invasive gastrectomy and D2 lymphadenectomy for gastric cancer.

METHODS: This study included all patients who underwent curative-intent elective minimally invasive gastrectomy and lymphadenectomy from April 2016 to Dec 2021. MIREC program involves a comprehensive perioperative education, nutritional and physical optimization, minimally invasive surgical approach, multimodality pain management, postoperative early oral intake-ambulation ambulation, and no tubes or study. Information was obtained from the electronic medical record and chart review. We compared the length of hospital stays, 30-days readmission and re-operation rate and 90-day mortality.

RESULTS: There were 595 patients (272 in pre-implementation and 323 during post-implementation) with a median age of 68 and 40%(F). The length of stays(median) was seven days (pre-implementation) and decreased to three days (2016) and two days (2017-2021) (P< 0.0001), with 93 patients (28.8%) going home a day after their gastrectomy. There was no statistical difference in group patients who went home on POD 1 and > POD 2 with the 30 days readmission rate (10%vs10.5%) and re-operation rate (11.3%vs10%) with 90 days mortality rate of (0%vs0.7%).

CONCLUSIONS: A significant perioperative care paradigm change can occur safely when the MIREC program is applied. These changes required comprehensive patient education, perioperative optimization, and full multidisciplinary approach support. Such initiatives can substantially improve patient care and cost-effectiveness in gastric cancer surgery care delivery.

Session 4 | Podium 11 (2:00PM - 2:15PM)

Randomized Controlled Trial of Perioperative Telemonitoring in Gastrointestinal Oncologic Surgery: Assessing Overall Feasibility and Acceptability

Kristen Limbach, MD - City of Hope, Patrica Esslin, PhD - City of Hope, Virginia Sun, RN, PhD - City of Hope, Darrell Fan - City of Hope, Andreas Kaiser, MD - City of Hope, Isaac Paz, MD - City of Hope, Mustafa Raoof, MD - City of Hope, Aaron Lewis, MD - City of Hope, Kurt Melstrom, MD - City of Hope, Lily Lai, MD - City of Hope Medical Center, Yanghee Woo, MD - City of Hope, Gagandeep Singh, MD - City of Hope, Yuman Fong, MD - City of Hope, Laleh Melstrom, MD - City of Hope

Presenter: Kristen Limbach **Discussant:** Maihgan Kavanagh **Closer:** Laleh Melstrom

OBJECTIVE: This prospective randomized trial assesses the feasibility and acceptability of perioperative telemonitoring in patients undergoing complex gastrointestinal oncologic surgery.

BACKGROUND: Telehealth has enabled monitoring of patient generated health data (PGHD), however, limited evidence exists on feasibility and acceptability

METHODS: Patients undergoing GI oncologic surgery wore an activity tracker, completed electronic symptom monitoring, and recorded vital signs via a telehealth app before surgery and post-discharge from 10/21/21-8/31/22. Patients in the intervention arm received nursing triage support when data deviated from predetermined thresholds. Feasibility (% adherence to 70% timepoints) was the primary outcome. Acceptability was assessed by the patient satisfaction tool.

RESULTS: The majority (83/106;78%) of screened patients were consented, with 65 completing the study by 8/31/22. Median age was 52(range 28-72) and 21(32%) were female. The readmission rate was 17% (11/65) and the incidence of >Grade 3a complications was 15%(10/65). Overall, 88% (57/65) completed 70% of the time points (baseline, discharge, d2, d7, d14, d30). Patients in the intervention arm (97%,31/32) were significantly more likely to complete 70% of the time points than the control arm (79%,26/33); ($P<0.05$). The overall attrition rate was 4.6% (3/65) and late ineligibility was 6.1%(4/65). The majority of patients completed the satisfaction tool (83.1%;54/65) and reported that telemonitoring was helpful to track their daily activities (80%;43/54) and the timing of surveys was just right (94%;51/54).

CONCLUSIONS: Remote perioperative telemonitoring of PGHD appears feasible and acceptable in complex GI oncologic surgery. Future analyses will determine which aspects of telemonitoring impact perioperative outcomes and render the most value.

Session 4 | Podium 12 (2:15PM - 2:30PM)

Greening the OR: Piloting Reusable Surgical Gowns with the PDSA Cycle

Ava Yap – University of California, San Francisco, Kaiyi Wang, MS - University of California, San Francisco, Flora Park, BA - University of California, Irvine, Parker Entrup, B.S. - The Ohio State University, Nicholas Gonsalves, MD - Cedars-Sinai Medical Center

Presenter: Ava Yap **Discussant:** Roger Tatum **Closer:** Jonathan Carter*

OBJECTIVE: A pilot to transition towards reusable surgical gowns was conducted to reduce perioperative waste and surgery's carbon footprint.

BACKGROUND: United States hospitals generate 4 billion pounds of waste annually; most comes from the operating room (70%). Reusable surgical textiles are more environmentally friendly than disposable ones, but many hospitals still use disposable textiles.

METHODS: Reusable surgical gowns were piloted at two facilities in a hospital system that only used disposable gowns. Each pilot spanned 3 weeks and was evaluated using a Plan-Do-Study-Act (PDSA) cycle. Primary endpoints were 1) extent of perioperative staff gown utilization and 2) end-user satisfaction, which were ascertained by audits and surveys, respectively. Barriers to utilization were identified during the first PDSA cycle and addressed in the second PDSA cycle, which also included reusable surgical towels and mayo stand covers.

RESULTS: 103 surgeons and 120 perioperative staff members participated, covering 618 operations. Barriers to staff buy-in included workflow gaps in gown utilization and processing, safety concerns, and uncertainty surrounding reusable textiles' environmental impact. Steps to address barriers included identifying nursing champions, educating pre-pilot staff on the gowns' efficacy, and mobilizing departmental leadership support. Perioperative staff use of reusable gowns improved from 0% (baseline) to 88.6% to 93.6% over the two PDSA cycles. Satisfaction increased from 22.9% to 58.3%. Together, the pilots reduced approximately 371 pounds of solid waste.

CONCLUSIONS: Transitioning to reusable surgical gowns can reduce perioperative waste. Implementation requires integration across multiple perioperative services, staff education, and end-user investment.

**Paper Sponsor Jonathan Carter*

Podium Presentations

Session 5

Moderator: M. Raashid Sheikh, MD

Session 5 | Podium 13 (2:30PM - 2:45PM)

Association of Cumulative Social Risk and Survival Among Patients with Advanced Colorectal Cancer

Kirbi Yelorda, MD, MS - Stanford University, Department of Surgery, Heather Day, MS - Stanford University, Department of Surgery, Alexa Pohl, MD, PhD - Stanford University, Department of Surgery, Amber Trickey, PhD, MS - Stanford University, Department of Surgery, Badi Quinteros, BS - Stanford University, Department of Surgery, Rachel Davis, PhD - East Carolina University, Arden Morris, MD, MPH - Stanford University, Department of Surgery

Presenter: Kirbi Yelorda **Discussant:** Beverley Petrie **Closer:** Arden Morris

OBJECTIVE: Our purpose was to examine cumulative associations of multiple, co-occurring individual-level social risk factors with long-term survival among patients with advanced colorectal cancer.

BACKGROUND: Socioeconomic disadvantage is associated with poor surgical outcomes among patients with colorectal cancer (CRC). However, many studies are limited to aggregated zip-code level rather than individual-level socioeconomic factors. Moreover, the influence of social risk factors on long-term oncologic outcomes has not been explored.

METHODS: Between 2011-2014, we partnered with the Surveillance, Epidemiology and End Result (SEER) registries of Georgia and Metropolitan Detroit to survey patients with Stage III CRC who had undergone surgery in the prior year. Cumulative social risk included preoperative employment, annual income, health insurance, comorbidities, marital status, health literacy, adult caregiving, and perceived discrimination. The primary outcome was survival time measured as time-to-death. Hazard ratios were estimated with multivariable Cox proportional hazards regression, adjusted for age, race, sex, and receipt of chemotherapy.

RESULTS: A total of 1164 patients were followed for a median of 5.48 years. Overall survival differed by cumulative social risk (5-year survival: 0 social risks 80.0%, 6+ social risks 60.0%). After adjusting for demographics and treatment, each additional social risk was associated with a higher likelihood of death (HR: 1.13; 95% CI: 1.06-1.21, $p<0.001$, Figure 1)

CONCLUSIONS: Cumulative social risk was associated with long-term survival after treatment for Stage III CRC. Assessing social risk may help identify patients with CRC who are at higher risk of mortality to receive support programs designed to mitigate social disadvantage.

Session 5 | Podium 14 (2:45 PM - 3:00 PM)

Regionalization of Pancreatic Surgery in California: A Concept with Greater Appeal than Anticipated Benefits

Lauren Perry, MD - Department of Surgery, University of California, Davis, Robert Canter, MD - Department of Surgery, University of California, Davis, Cameron Gaskill, MD, MPH - Department of Surgery, University of California, Davis, Richard Bold, MD, MBA - Department of Surgery, University of California, Davis

Presenter: Lauren Perry **Discussant:** Lawrence Wagman **Closer:** Richard Bold

OBJECTIVE: To estimate the improvement in clinical outcomes and healthcare expenditures if all pancreatic cancer surgery in California occurred at high-volume centers.

BACKGROUND: Pancreatic cancer (PC) surgery has been associated with improved outcomes and value when performed at high-volume centers (HVC; >20 surgeries annually) compared to low-volume centers (LVC). Some have used these differences to suggest that regionalization of PC surgery would optimize patient outcomes and expenditures.

METHODS: Using our previously reported clinical outcome metrics (California Cancer Registry) linked with healthcare costs (Office of Statewide Health Planning and Development) following PC surgery at both LVC or HVC, we created a Markov model comparing the current state of care and healthcare costs to that if all PC surgery were performed at HVCs.

RESULTS: An estimated 2,443 California patients were diagnosed with localized/regional PC in 2021. PC surgeries are nearly evenly split between LVCs (53.4%) and HVCs (46.6%). In aggregate, LVC and HVC 30-day postoperative complications occurred in 364 patients, 30-day mortality in 35 patients, and healthcare costs expended managing complications were $6,120,660. In the predictive model of regionalization to only HVC, 30-day complications would occur in 335 patients, 30-day mortality in 18 patients, and associated healthcare costs would be $5,633,025. Predictive regionalization of PC surgery in California estimates 29 fewer complications, 18 fewer deaths, and a cost savings of $487,635 per year.

CONCLUSIONS: While regionalization of pancreatic surgery has significant theoretical benefits, the anticipated benefits are more modest and may be significantly offset by barriers in care coordination.

Session 5 | Podium 15 (3:00 PM - 3:15 PM)

Colectomy at Highest Safety-Net Burden Hospitals is Associated with Decreased Textbook Oncologic Outcomes and Survival

Paul Wong, BS - University of California, San Francisco, Emily Miraflor, MD - Highland Hospital, Gregory Victorino, MD - University of California, San Francisco, Adnan Alseidi, MD, Ed.M - University of California, San Francisco, Ajay Maker, MD - University of California, San Francisco, Lucas Thornblade, MD, MPH - University of California, San Francisco

Presenter: Paul Wong **Discussant:** Mark Hanna **Closer:** Lucas Thornblade

OBJECTIVE: To understand how safety-net hospital (SNH) burden affects achievement of textbook oncologic outcome (TOO) in colorectal cancer patients undergoing resection for locoregional and metastatic disease.

BACKGROUND: Clinical outcomes for complex cancer operations are not well described for SNH. TOO has emerged as a composite measure for high-quality surgical cancer care.

METHODS: The National Cancer Database was queried for colorectal cancer patients who underwent resection for stage I-III disease plus stage IV with liver-only metastases (2010-2019). SNH status was defined using proportion of uninsured/Medicaid patients and stratified as low (LBH), medium, and high burden hospitals (HBH). TOO was defined as achieving R0 resection, AJCC-compliant lymphadenectomy (>12 nodes), no prolonged LOS, no 30-day mortality/readmission, and receipt of stage-appropriate adjuvant chemotherapy (when indicated).

RESULTS: Of 487,195 patients, 66.7% achieved TOO. Receiving treatment at HBHs, compared to LBHs, was an independent predictor of not experiencing TOO (Stage I/II: OR 0.83, Stage III: OR 0.86, Stage IV: OR 0.83, all $p<0.001$). TOO was associated with lower mortality (Stage I/II: HR 0.49, Stage III: HR 0.48, Stage IV: HR 0.57, all $p<0.001$), and treatment at HBH was independently associated with increased mortality (Stage I/II: HR 1.09, Stage III: HR 1.05, Stage IV: HR 1.07, all $p<0.05$).

CONCLUSIONS: Independent of insurance, textbook oncologic outcomes are experienced less frequently in higher burden hospitals, and non-TOO and high SNH burden were associated with increased mortality. Potential modifiable targets to improve outcomes at SNHs include adequate lymphadenectomy and avoidance of prolonged LOS.

**Paper Sponsor Gregory Victorino*

Session 5 | Podium 16 (3:15 PM - 3:30 PM)

National Examination of the Cost-Volume Relationship in Robotic Pancreatectomy

Arjun Verma - David Geffen School of Medicine at University of California, Los Angeles, Nikhil Chervu, MD MS - Department of Surgery, University of California, Los Angeles, Syed Shahyan Bakhtiyar, MD - Department of Surgery, University of California, Los Angeles, Sara Sakowitz, MS MPH - David Geffen School of Medicine at University of California, Los Angeles, Joseph Hadaya, MD PhD - Department of Surgery, University of California, Los Angeles, Timothy Donahue, MD - Department of Surgery, University of California, Los Angeles, Peyman Benharash, MD MS - Department of Surgery, University of California, Los Angeles

Presenter: Arjun Verma **Discussant:** Patrick Worth **Closer:** Peyman Benharash

OBJECTIVE: To examine the national cost-volume relationship in robotic pancreatectomy (RP).

BACKGROUND: Despite technical advantages and evidence suggesting oncologic equivalence to other approaches, RP remains underutilized in the United States, in part due to prohibitive costs.

METHODS: The 2016-2019 Nationwide Readmissions Database was queried to identify adults undergoing RP. The risk-adjusted relationship between annual hospital RP volume and costs was modeled using restricted cubic splines. The inflection point was used to classify centers as low-(LVH) or high-(HVH) volume. Major adverse events (MAE) were defined as a composite of in-hospital mortality, venous thromboembolism, respiratory failure, pneumonia and sepsis. Multivariable regression was used to assess the association of HVH status with MAE, length of stay (LOS), costs, non-home discharge and 30-day, non-elective readmissions.

RESULTS: Of an estimated 5,544 patients, 28.0% were managed at HVH, defined as centers performing ≥25 RP/year (Figure). Compared to LVH, patients at HVH had similar distribution of age and sex, but more commonly underwent pancreaticoduodenectomy and had malignant lesions (Table 1). On risk adjusted analysis, patients at HVH experienced reduced odds of MAE (adjusted odds ratio [AOR] 0.60, $p<0.05$). While HVH status did not alter LOS, a $4,500 cost reduction was noted at HVH, with LVH as reference (Table 2). Moreover, patients at HVH had lower odds of non-home discharge (AOR 0.59, $p<0.05$) and similar likelihood of 30-day readmission, compared to LVH.

CONCLUSIONS: High RP volume was associated with decreased MAE and costs, suggesting that reduced complications and specific care pathways may confer lower expenditure at experienced centers.

Podium Presentations

Session 6

Moderator: Julie Ann Sosa, MD

TRAINEE FINALISTS

Session 6 | Podium 17 (8:30 AM - 8:45 AM)

Impact of Fibrinolysis Phenotype on Patient Outcomes following Traumatic Brain Injury

Samantha Durbin, MD - Oregon Health & Science University, Alicia Johnson, MPH - Oregon Health & Science University, Susan Rowell, MD, MBA - The University of Chicago Medicine & Biological Sciences, Martin Schreiber, MD - Oregon Health & Science University

Presenter: Samantha Durbin **Discussant:** Rodrigo Alban **Closer**: Martin Schreiber

OBJECTIVE: Examine fibrinolysis phenotype impact on TBI patient outcomes

BACKGROUND: Impaired coagulation is associated with elevated risk of mortality in trauma patients. Prior studies have demonstrated increased mortality in hyperfibrinolysis (HF) and in fibrinolysis shutdown (SD). Additionally, prior studies have demonstrated no impact of tranexamic acid (TXA) on fibrinolysis phenotypes. We examined the impact of admission fibrinolysis phenotype on traumatic brain injury (TBI) patient outcomes.

METHODS: Data were extracted from a placebo-controlled clinical trial in which patients ≥15 years old with TBI (Glasgow Coma Scale 3–12) and systolic blood pressure ≥90 mmHg were randomized in the out-of-hospital setting to receive placebo bolus/placebo infusion (Placebo), 1 gram (g) TXA bolus/1g TXA infusion (Bolus Maintenance [BM]); or 2g TXA bolus/placebo infusion (Bolus Only [BO]). Fibrinolysis phenotypes on admission were determined by clot lysis at 30 minutes (LY30): SD ≤0.8%, physiologic 0.9-2.9%, HF ≥3%. Logistic regression was used to control for age, sex, penetrating injury, ISS, maximum head AIS, and TXA treatment group.

RESULTS: 700 patients met inclusion criteria. Fibrinolysis shutdown was the most common phenotype in all treatment groups, and it was associated with increased age and ISS. Inpatient mortality was 15.2% for SD and HF, and 10.6% for physiologic ($p = 0.35$). No difference in mortality, disability rating score at 6 months, acute kidney injury, acute respiratory distress syndrome, or multi-organ failure was noted between fibrinolysis phenotypes.

CONCLUSIONS: SD is the most common phenotype expressed in moderate to severe TBI. In TBI, there is no association between fibrinolysis phenotype and mortality or other major complications.

Session 6 | Podium 18 (8:45 AM - 9:00 AM)

Bridging the Machine-Learning Implementation Gap: LDM Injury Index, A Practical Algorithm to Quantify Injury Severity

Jeff Choi, MD MS - Stanford University, Edward Vendrow, BS - Stanford University, Michael Moor, MD PhD - Stanford University, David Spain, MD - Stanford University

Presenter: Jeff Choi **Discussant:** Peyman Benharash **Closer:** David A. Spain

OBJECTIVE: Build the LDM Injury Index—a practical, data-driven algorithm that quantifies injury severity. Exemplify implementation of useful machine learning algorithms at the bedside.

BACKGROUND: The Injury Severity Score is used globally to quantify injury severity yet constitutes a decades-old score calculated from chart review days to weeks after hospital discharge. A contemporary, data-driven, and interpretable algorithm that quantifies injury severity for real-time decision-making is critically needed.

METHODS: Our dataset comprised 473,861 admission encounters of injured adults (80-20-20 training-validation-test cohorts). Using 129 distinct injury patterns, the LDM Injury Index predicts three scores: L (hospital length of stay, in days), D (discharge disposition: 0 to 100, probability of discharge to a facility), and M (mortality: 0 to 100, probability of inpatient mortality). The prediction algorithm constitutes a multi-output deep neural network, calibrated using Platt scaling (Figure1).

RESULTS: The LDM Injury Index had strong discrimination performance, with area under the receiver operating characteristic curve of 0.85 for predicting mortality and 0.78 for predicting discharge to a facility. On average, predicted hospital length of stay was within 2.9 days of actual length of stay (within 2.0 days for patients hospitalized fewer than 14 days). The LDM Injury Index predicted accurate probabilities with strong calibration performance (Figure2).

CONCLUSIONS: The LDM Injury Index is a high-performing algorithm that quantifies injury burden using interpretable predictions for three key outcomes. Scores can be computed within a minute, and we are building a mobile application and publicizing source code to facilitate both bedside and post-hoc analysis adoption.

Session 6 | Podium 19 (9:00 AM - 9:15 AM)

COVID-19 Delay in Screening Colonoscopy Impacts Survival in an Integrated Healthcare System

Jessica Weiss, MD - Providence Saint John's Cancer Institute, Shu-Ching Chang, PhD - Providence Saint Joseph's Health, Roshanthi Weerasinghe, MPH - Providence Research Network, Ann Vita - Providence Research Network, Staci Wendt, PhD - Providence Research Network, Anton Bilchik, MD, PhD, MBA - Providence Saint John's Cancer Institute

Presenter: Jessica Weiss **Discussant:** Anjali Kumar **Closer:** Anton J. Bilchik

OBJECTIVE: Determine the impact of the COVID-19 pandemic on colorectal cancer (CRC) screening and survival.

BACKGROUND: Screening colonoscopy is the most effective method for reducing CRC mortality. It's known that the COVID-19 pandemic led to a reduction in screening colonoscopies, but the impact on survival is unknown.

METHODS: This longitudinal, retrospective study of a single healthcare system database identified patients with a primary care visit between January 2016 and April 2022 who met USPSTF guidelines for CRC screening or had a screening colonoscopy within the 9 years prior. Among patients with screen-detected CRC, overall survival (OS) was compared across pre- and post-COVID time periods using Kaplan-Meier analyses with log-rank test and multivariable Cox proportional hazards regression analyses.

RESULTS: 659,727 patients were identified as screen eligible. 368,338 unique patients had screening colonoscopies resulting in 3,429 CRCs diagnoses. There was a 21.2% cumulative decline in screening during the post-COVID interval from March 2020 through February 2022 relative to March 2018 through February 2020 (101,311 vs 128,558) (Fig. 1). Colonoscopy wait time was significantly longer post-COVID compared to pre-COVID [median days (IQR) 55 (17-105) vs 42 (8-90), $p<0.001$]. Among patients with a screen-detected CRC, OS was significantly worse post-COVID than pre-COVID (2-year OS: 87.3% vs 92.5%, $p<0.001$) (Fig. 2). After controlling for age, gender, race, and insurance, poorer OS post-COVID persisted (aHR=1.76, $p=.002$).

CONCLUSIONS: The COVID-19 pandemic led to both a decrease and delay in screening colonoscopy. This is the first study to show that decreases and delays in screening, due to COVID are associated with increased overall mortality.

Session 6 | Podium 20 (9:15 AM - 9:30 AM)

The Outcomes and Health Equity Impact of Telehealth Use for Pediatric Surgery Preoperative Care

Hannah Cockrell, MD - Seattle Children's Hospital, Dwight Barry, PhD - Seattle Children's Hospital, Andre Dick, MD, MPH - Seattle Children's Hospital, Sarah Greenberg, MD, MPH - Seattle Children's Hospital

Presenter: Hannah Cockrell **Discussant:** Lorraine Kelley-Quon **Closer:** Lorrie Langdale*

OBJECTIVE: We compared the incidence of postoperative complications among patients who were evaluated preoperatively via telehealth versus in-person, stratified by demographic and geographic variables.

BACKGROUND: Previous studies conducted at our hospital revealed that patients who identify as American Indian or Alaska Native, live in neighborhoods characterized by high levels of socioeconomic disadvantage, and travel farther distances for care are more likely to use telehealth services. We have not previously evaluated patient outcomes following telehealth use in pediatric surgery.

METHODS: We performed a retrospective analysis of patients ages 0-21 years who underwent surgery at a quaternary pediatric hospital between 3/1/2020-5/31/2021. This period reflects the timing of our hospital's telehealth rollout to support COVID-19 social distancing. Outcome was 30-day postoperative serious adverse events (SAE), including cardiac arrest, sepsis, unplanned return to the operating room, and unplanned hospital readmission. Logistic regression assessed the effect of preoperative appointment type. Patient age, race and ethnicity, preferred language, distance to care, and neighborhood-level socioeconomic disadvantage were covariates.

RESULTS: 1,776 patients were included; 238 (13.4%) telehealth and 1,538 (86.6%) in-person. There were no differences in demographic or geographic access variables between cohorts. Incidence of SAE was 8.4% for telehealth versus 4.6% for in-person. Telehealth was associated with nearly two-fold odds of SAE on univariable (OR 1.97, 95% CI: 1.15,3.38) and multivariable regression (OR 1.94, 95% CI 1.04, 3.47).

CONCLUSIONS: We found differential outcomes for preoperative telehealth versus in-person appointments. Additional inquiry is needed to better elucidate the etiology of these differences to improve patient outcomes and to mitigate pediatric surgical inequity.

**Paper Sponsor Lorrie Langdale*

Brief Podium Presentations

Session 7

Moderators: Thomas Biehl, MD

Andrea Stroud, MD

Session 07 | Brief Podium 12 (10:00 AM- 10:05 AM)

Contributions to Surgery: The Pacific Coast Surgical Association (PCSA) Publication History from 2008-2020 Annual Meetings

Jenny Chang, MD - Cleveland Clinic, Digestive Disease Institute, Department of Surgery, Sarah Lee, MD - Loma Linda University Health, Department of Surgery, Nikita Kadakia, MD - Loma Linda University of Health, Department of Plastic Surgery, Sherry Wren, MD - Stanford Medicine, Department of Surgery, Sharon Lum, MD, MBA - Loma Linda University Health, Department of Surgery

Presenter: Jenny Chang

OBJECTIVE: To describe publication characteristics from Pacific Coast Surgical Association (PCSA) annual meetings.

BACKGROUND: PCSA meetings have been a venue for surgical research since 1925.

METHODS: All abstracts in PCSA program books from 2008-2020 were searched on PubMed and Google for related publications, defined by authors, institutions, and content. Variables collected included presentation type, successful manuscript publication, time to publication from date of presentation, and journal. Annual comparisons were performed. In 2013, Archives of Surgery was brought into the JAMA network as JAMA Surgery. These publications were grouped as the official publication for PCSA.

RESULTS: Of 809 presented abstracts from 41.3% (333) plenary podium and 58.7% (473) brief presentations, 806 subsequent publication status was identified. Overall, 61.8% (498/806) of presentations were published in 80 different journals, most frequently JAMA Surgery/Archives (33.15%, n=245) (Table 1). Successful publication yield by presentation type was 78.4% (261/333) for plenary and 50.1% (237/473) for brief presentations. Median time to publication was 11 months (range 0-131, IQR 9.25), with 9 months (range 0-49, IQR 7) for plenary presentations and 14 months (range 3-131, IQR 10) for brief presentations. Trends in publications by presentation type and year are demonstrated in Figure 1. Comparing pre- vs. post-2013, the overall proportion successfully published abstracts was 71.1% (204/287) vs. 56.7% (294/519) (p=0.0001) respectively, with no difference by plenary vs. brief presentation type (p=0.9) or JAMA Surgery/Archives vs. other journal (p=0.2) (Table 2).

CONCLUSIONS: PCSA meetings have contributed robustly to surgical literature, generating nearly 500 scientific publications since 2008.

Session 07 | Brief Podium 14 (10:05 AM- 10:10 AM)

Beyond the Citation Count: Analysis of the Top 100 Disruptive Academic Publications in Bariatric Surgery

Jessica Wu, MD - University of Southern California, Jack Silva, MD - University of Southern California, Stuart Abel, MD - University of Southern California, James Nguyen, MD - University of Southern California, Adrian Dobrowolsky, MD - University of Southern California, Kamran Samakar, MD - University of Southern California, Matthew Martin, MD - University of Southern California

Presenter: Jessica Wu

OBJECTIVE: To characterize the top 100 disruptive papers in the bariatric surgery literature and compare/contrast them with the top cited papers.

BACKGROUND: Citation count (CC) is the most commonly utilized metric to rank the influence of academic publications. Disruption score (DS) is a novel bibliometric tool used to identify paradigm-changing publications. No prior studies have examined the DS in bariatric literature.

METHODS: The top 100 bariatric surgery papers by DS and CC were identified via professional literature search (1954-2014). The groups were analyzed and compared based on study design, perceived contribution, and correlation between DS and CC.

RESULTS: There were 9,288 bariatric surgery papers identified from 30 high-impact bariatric and surgery journals. Only 11 publications were included in both the top 100 DS and CC lists. There was a weak correlation between the DS and CC metrics ($r = 0.33$, $p < 0.01$, Figure 1). Obesity Surgery had more the top 100 DS papers and top 100 CC publications than any other journal. Many of the top DS papers introduced new techniques or technical innovations in bariatric surgery compared to the top CC papers (45 vs 19, $p < 0.01$, Figure 2). There were more meta-analyses or review publications in the top CC list compared to the top DS list (16 vs 4l, $p < 0.01$).

CONCLUSIONS: Our study demonstrates how DS and CC capture different subsets of publications. Studies identified utilizing DS largely introduce novel ideas causing disruptive shifts in the field of bariatric surgery.

Session 07 | Brief Podium 15 (10:10 AM- 10:15 AM)

Association between Same-day Discharge and Delays in Care for Complications following Sleeve Gastrectomy

Vincent Cheng, MD - Kaiser Permanente South Sacramento, Gary Grinberg, MD - Kaiser Permanente South Sacramento, Kamran Samakar, MD - University of Southern California, Matthew Martin, MD - University of Southern California, Matthew Ashbrook, MD - University of Southern California, Jack Silva, MD - University of Southern California, Pandu Yenumula, MD - Kaiser Permanente South Sacramento

Presenter: Vincent Cheng

OBJECTIVE: To examine the association between same-day discharge (SDD) and delays to care for complications following sleeve gastrectomy (SG).

BACKGROUND: Same-day discharge following SG remains controversial due to concerns for potential delay in identifying and treating early postoperative complications. The legitimacy of these concerns requires further evaluation.

METHODS: The Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (2015-2020) was queried for patients who underwent SG and required postoperative interventions or reoperation. The study included only patients with SDD or postoperative day 1 (PD1) discharge. Multivariable regression analyses examined the association between SDD and delays to readmission, postoperative intervention, and reoperation.

RESULTS: A total of 3,361 patients were identified; SDD and PD1 discharge were utilized in 268 (8%) and 3,093 (92%) of patients. The median age was 44 years, 729 (22%) were male, and the median body mass index was 44. Compared to SDD, PD1 discharge was significantly associated with greater delay from discharge to readmission for bleeding (regression coefficient [RC] 0.356, 95% confidence interval [CI] 0.144-0.569, p=0.001), leaks (RC 0.151, 95% CI 0.003-0.299, p=0.045), and bowel obstruction (RC 0.496, 95% CI 0.254-0.737, p<0.001). PD1 discharge was also significantly associated with greater delays to reoperation for bleeding (RC 0.325, 95% CI 0.158-0.492, p<0.001), leaks (RC 0.304, 95% CI 0.149-0.459, p<0.001), and bowel obstruction (RC 0.201, 95% CI 0.110-0.293, p<0.001) compared to SDD (Figure 1).

CONCLUSIONS: Compared to extended observation, SDD was associated with equal or superior timeliness of complication diagnosis and surgical interventions. Expanded use of SDD after SG may be warranted.

Session 07 | Brief Podium 16 (10:15 AM- 10:20 AM)

Through the Scope, Through the Years: Trends in Laparoscopic Common Bile Duct Exploration

Nicholas Gonsalves, MD - Cedars-Sinai Medical Center, Joshua Tseng, MD - Cedars-Sinai Medical Center, Yufei Chen, MD - Cedars-Sinai Medical Center, Kulmeet Sandhu, MD - Cedars-Sinai Medical Center, Farin Amersi, MD - Cedars-Sinai Medical Center, Edward Phillips, MD - Cedars-Sinai Medical Center

Presenter: Nicholas Gonsavles

OBJECTIVE: Identify trends in use and success of laparoscopic common bile duct exploration (LCBDE) at an academic medical center over the past decade.

BACKGROUND: Our prior experience has shown that concurrent LCBDE during cholecystectomy removes common duct stones and shortens length of stay (LOS) compared with two-stage cholecystectomy with ERCP and endoscopic sphincterotomy (ERCP/ES).

METHODS: Retrospective chart review of 291 patients undergoing LCBDE with concurrent cholecystectomy from 2012-21. Multivariable regression was used to identify predictors of successful LCBDE.

RESULTS: Annual LCBDE volumes decreased from 33 in 2012 to 23 in 2021; resident-involved cases decreased from 26 (79%) to 16 (70%), or 1.5 to 0.6 cases/resident/year. LCDBE was performed by transcystic approach in 285 cases (98%) and by choledochotomy in 6 (2%). LCBDE was successful in 240 cases (82%) and unsuccessful in 51; 45 (88%) underwent postoperative ERCP/ES. Median LOS was shorter following successful LCBDE (1 vs. 3 days; P<0.001). Comparing successful vs. unsuccessful LCBDE, there were no significant differences in patient demographics, clinical variables, or resident involvement, while average surgeon experience measured in years after training was 17.5 yr. vs. 12.9 yr. (P=0.029). On multivariable regression, only surgeon experience predicted LCDBE success (OR 1.049; 95%CI 1.009-1.091).

CONCLUSIONS: LCBDE volumes have declined and will decline further as cholecystectomy is increasingly performed robotically. Since surgeon experience is the only predictor of successful LCBDE at this institution and residents' LCBDE case volumes have decreased, the need to train residents on simulators and increase involvement in LCBDE is urgent lest these skills are lost.

Session 07 | Brief Podium 17 (10:20 AM- 10:25 AM)

Frailty and Adherence to the Physical Activity Component of Home-based Prehabilitation in Gastrointestinal Surgery Patients

Uyen Mai, BS – Stanford University - Surgery Policy Improvement Research & Education Center (S-SPIRE), Cintia Sakurai Kimura, MD PhD - Stanford University, Department of Surgery, Kreeti Shankar, MPH - Stanford University, Department of Surgery, Andrew Shelton, MD - Stanford University, Department of Surgery, Brendan Visser, MD - Stanford University, Department of Surgery, Cindy Kin, MD, MS - Stanford University, Department of Surgery

Presenter: Uyen Mai

OBJECTIVE: Assess whether frailty affects adherence to a web and home-based prehabilitation program.

BACKGROUND: Frail patients face higher risk for perioperative complications and mortality, highlighting a need to develop prehabilitation programs accessible to them.

METHODS: Patients undergoing major gastrointestinal surgery who enrolled in a prehabilitation program received a wearable activity tracker synced with a personalized prehabilitation mobile app. The app delivered coaching reminders to complete cardio and strength exercises. We assessed frailty with the Risk Analysis Index (RAI). We defined adherence as completing 3 or more workouts per week and/or walking >5,000 steps/day if normal/robust or >3,000 steps/day if very frail/frail. Multivariable logistic regression was used to determine the association between frailty and prehabilitation adherence adjusting for confounders (age, sex, and BMI).

RESULTS: Of the 112 patients enrolled, 3.5% were categorized as 'very frail' (RAI >39) and 11.6% were categorized as 'frail' (RAI 30-39). Out of 95 non-frail patients (RAI <30), 59% fulfilled criteria for adherence, compared to 54% of moderately frail patients and 75% of very frail patients. Normal and robust patients had higher daily step count compared to frail and very frail patients but did not complete a higher number of workouts per week (Table 1). After adjusting for sex, age, and BMI, overall frailty (RAI>=30) was not associated with lower prehabilitation adherence (adjusted p-value=0.59, OR=0.13, 95%CI 0.20, 2.53).

CONCLUSIONS: Unsurprisingly, non-frail patients had higher step count, but very frail and frail patients did still participate to a significant degree, demonstrating that prehabilitation can be feasible for everyone with patient-centered tailoring.

Session 07 | Brief Podium 18 (10:25 AM- 10:30 AM)

An Interrupted Time Series Analysis: Improving Uptake of Multimodal Pain Management after Surgery

Andrew Robinson, MS – University of California, San Francisco, Catherine Lau, MD - University of California, San Francisco, Matthias Behrends, MD - University of California, San Francisco, Elizabeth Wick, MD - University of California, San Francisco, Andrew Auerbach, MD - University of California, San Francisco, Mark Pletcher, MD – University of California, San Francisco, Tasce Bongiovanni, MD – University of California, San Francisco

Presenter: Tasce Bongiovanni

OBJECTIVE: Demonstrate enhanced uptake of multimodal pain medication postoperatively from an Electronic Health Record (EHR) intervention.

BACKGROUND: Multimodal pain regimens, one tool used by surgeons to fight the opioid epidemic, includes acetaminophen and non-steroidal anti-inflammatories (NSAIDs). However, uptake in postoperative care has remained low.

METHODS: We conducted a series of randomized controlled trials (RCTs) across three hospital sites utilizing a single EHR. Acetaminophen was pre-checked in all groups starting in RCT1. In RCT1, clinicians had to accept or acknowledge a contraindication to an NSAID order ("RCT1 Nudge") vs. control; in RCT2, NSAIDS were pre-checked ("RCT2 Nudge") vs. control (Figure1). The intervention was embedded in the admission pain management panel. The panel also allowed clinicians to bypass pain orders for patients with 'no more than mild pain'. We analyzed initial ordering of acetaminophen and NSAIDS, and opioids at discharge, via an interrupted time series analysis, fitting a straight-line trend with a new intercept and slope within each RCT group/period, and overall, by period for all adults admitted after a surgical procedure since 1/1/2020 (Figure).

RESULTS: Our analysis included 11,743 admissions. After an initial faulty programming period, acetaminophen use increased during RCT1 (slope p<.001, Figure2) but NSAID use did not (slope p=.42, Figure3). During RCT2, prechecking NSAIDS increased NSAID use (group p<.001) and the overall slope for opioid use is now negative (slope p=.002) (Figure4).

CONCLUSIONS: Pre-checking an order for acetaminophen and for NSAIDS in surgical patients on admission effectively nudges clinicians to use multimodal pain management and may decrease opioid use.

Session 07 | Brief Podium 19 (10:30 AM- 10:35 AM)

Like, Comment, Share: What Facebook Groups Bring to the Surgical Community

Jonathan DeLong, MD – Stanford University, Rachel Jensen, MD – Stanford University, Rejoice Ngongoni, MD - Stanford University, Hester Timmerhuis, MD - Stanford University, Monica Dua, MD – Stanford University, Brendan Visser, MD – Stanford University

Presenter: Jonathan DeLong

OBJECTIVE: To determine the distinctive content posted to surgical subspecialty Facebook groups and the unique value they bring to the surgical community.

BACKGROUND: Social media is well-known for discussion and dissemination of surgical content. Surgery Facebook groups emerged in 2012 and engage thousands of members. We sought to determine the function and value of these groups through analysis of the posted content.

METHODS: The largest surgical Facebook groups in robotics, hernia, colorectal, foregut, and HPB were selected for analysis. 200 posts from each group were reviewed and coded into unique content categories. Each post was reviewed for use of media (photos, videos, diagnostics, and external links), and engagement measured by likes and comments. Descriptive statistics, unpaired t-tests, ANOVA, and chi-squared tests were used for statistical analysis.

RESULTS: Groups ranged from 2,869 - 13,989 members and published 1.03 - 4.76 posts per day. The most common content categories were: Interesting Case, “What Would You Do” Clinical Question, and Meeting Promotion. Groups with >10,000 members had higher engagement per post (10.9 vs. 7.2, $p<.001$ for comments, 20.5 vs. 8.0, $p<.001$ for likes). Posts with images received significantly more likes (24 vs. 8.6, $p<.001$).

CONCLUSIONS: Surgical Facebook groups serve a unique role among social media platforms. These groups provide users a place to solicit feedback on interesting cases, request guidance on challenging clinical scenarios, and promote upcoming meetings or webinars. Ongoing areas of study include assessment of the perceived benefit from case feedback and determination of the quality of clinical advice in response to challenging clinical scenarios.

Session 07 | Brief Podium 20 (10:35 AM- 10:40 AM)

Simultaneous versus Staged Cardiac Intervention in High Acuity Liver Transplantation: A Comprehensive Outcomes Analysis

Julian Horwitz, MD - Liver and Pancreas Transplantation Center, University of California-Los Angeles, Daisuke Noguchi, MD, PhD - Liver and Pancreas Transplantation Center, University of California-Los Angeles, Samer Ebaid, MD, PhD - Liver and Pancreas Transplantation Center, University of California-Los Angeles, Asara Thepbunchonchai, MD - Liver and Pancreas Transplantation Center, University of California-Los Angeles, Vatche Agopian, MD - Liver and Pancreas Transplantation Center, University of California-Los Angeles, Henry Honda, MD - Department of Cardiology, University of California-Los Angeles, Christine Myo Bui, MD - Department of Anesthesiology and Perioperative Medicine, University of California-Los Angeles, Douglas Farmer, MD - Liver and Pancreas Transplantation Center, University of California-Los Angeles, Ronald Busuttil, MD - Liver and Pancreas Transplantation Center, University of California-Los Angeles, Fady Kaldas, MD - Liver and Pancreas Transplantation Center, University of California-Los Angeles

Presenter: Julian Horwitz

OBJECTIVE: To evaluate outcomes in high acuity liver transplant patients requiring coronary revascularization or valve replacement at the time of liver transplantation (LT) or preoperatively.

BACKGROUND: Coronary artery and cardiac valvular disease are increasingly prevalent among liver transplant candidates due to higher rates of nonalcoholic steatohepatitis and an aging population. An assessment of outcomes and optimal management strategies, in high-MELD patients, are lacking.

METHODS: Adult LT recipients who underwent combined cardiothoracic surgery and liver transplantation (cCSLT), pre-operative coronary artery revascularization followed by LT (pCRLT), or isolated liver transplantation (iLT) were analyzed (single center; retrospective; 2012-2021).

RESULTS: Of 1199 LT recipients, 13 patients underwent cCSLT (11 coronary-artery bypass grafting procedures and 2 aortic valve replacements) and 28 patients underwent pCRLT. While there was no difference in the median MELD at transplant between the cCSLT and pCRLT groups (38 vs 37, p=0.9), the pCRLT group had a significantly lower MELD at the time of preoperative revascularization (22, p=0.001). There were no differences in intraoperative transfusion requirements, liver allograft cold ischemia time, unplanned reoperations, in-hospital mortality, or 1-year patient survival between the cCSLT, pCRLT, and iLT groups. While the pCRLT group had a higher usage of pre-LT antiplatelet therapy, there were no differences in pre-LT bleeding events compared to the cCSLT group.

CONCLUSIONS: This is the largest study to date in a high acuity patient population demonstrating that excellent outcomes are achievable in both cCSLT and pCRLT patients given careful patient selection and preoperative planning.

Session 07 | Brief Podium 21 (10:40 AM- 10:45 AM)

Characteristics Associated with Early Allograft Failure in Deceased Donor Kidney Transplantation

Jennifer Loza, BS – University of California, Davis, Transplant Surgery, Jacquelyn Yu, MD - University of California, Davis, General Surgery, Junichiro Sageshima, MD - University of California, Davis, Transplant Surgery, Peter Than, MD - University of California, Davis, Transplant Surgery, Naeem Goussous, MD - University of California, Davis, Transplant Surgery, Neal Mineyev, MD - University of California, Davis, Transplant Surgery, Richard Perez, MD - University of California, Davis, Transplant Surgery

Presenter: Jennifer Loza

OBJECTIVE: To analyze donor and recipient characteristics to determine their associations with early allograft failure (EAF, graft failure within 90 days of transplant).

BACKGROUND: EAF is a severe complication of kidney transplantation. It is unclear if donor or recipient characteristics can predict its likelihood post-transplant.

METHODS: We reviewed primary deceased donor kidney transplants at our institution from January 2005 through April 2021. Recipients of pediatric en bloc or multi-organ transplants were excluded. Univariate analysis using chi-square and Student's t-test and multivariate analysis using binary logistic regression was performed.

RESULTS: During this period, 2429 patients with a median (range) age of 56 years (11 months - 82 years) received deceased donor kidney transplants. 76 patients (3.1%) had EAF. There were no patient deaths with a functioning allograft within 90 days of transplantation. Univariate analysis shows increased donor age, cold ischemia time (CIT), kidneys recovered after circulatory death, and a donor history of hypertension or diabetes were significantly associated with EAF. Multivariate analysis identified six donor characteristics that were independently associated with an increased risk of EAF: older age, diabetes, height, terminal serum creatinine, cold ischemia time, and circulatory death. After adjusting, only recipient ethnicity and lack of diabetes were independently associated with EAF.

CONCLUSIONS: This study identified that predominantly unmodifiable donor characteristics were associated with EAF, suggesting changes in donor selection may impact the rate of EAF. Of the factors assessed, CIT was the only modifiable risk factor. Reducing CIT could decrease the rate of EAF and improve renal allograft survival in the future.

Session 07 | Brief Podium 22 (10:45 AM- 10:50 AM)

A Tale of Two Prophylaxes: Enoxaparin Versus Heparin for Venous Thromboembolism Prevention

Alexander Marrotte, MD - Scripps Mercy Hospital San Diego, Richard Calvo, PhD - Scripps Mercy Hospital San Diego, Jayraan Badiee, MPH - Scripps Mercy Hospital San Diego, Benedict Capacio, MD - Scripps Mercy Hospital San Diego, Christopher Goljan, MD - Scripps Mercy Hospital San Diego, Alexandra Rooney, MPH - Scripps Mercy Hospital San Diego, Alyssa Carroll, MPH - Scripps Mercy Hospital San Diego, C Beth Sise, JD - Scripps Mercy Hospital San Diego, Andrea Krzyzaniak, MA - Scripps Mercy Hospital San Diego, Vishal Bansal, MD - Scripps Mercy Hospital San Diego, Michael Sise, MD - Scripps Mercy Hospital San Diego, Matthew Martin, MD - Scripps Mercy Hospital San Diego

Presenter: Alexander Marrotte

OBJECTIVE: We sought to analyze a large, multicenter database to evaluate the current use of pharmacologic prophylaxis of venous thromboembolism.

BACKGROUND: In trauma patients, venous thromboembolism (VTE) is a major source of morbidity and mortality with no clear consensus for optimal pharmacologic prophylaxis.

METHODS: The CLOTT-1 multicenter registry was analyzed, and patients were separated based on VTE prophylaxis management with primary outcome being development of VTE event. Multivariate analysis was performed and controlled for primary VTE risk factors and prophylactic regimens were evaluated for effectiveness and significance of missed doses.

RESULTS: Of the 1,395 patients identified, 368 were on enoxaparin 30mg BID, 321 enoxaparin 40mg daily, 411 5000 U heparin TID, and 42 on heparin 5000 U BID. After adjusting for primary VTE risk factors, heparin BID dosing appeared worse at preventing VTE than enoxaparin 30mg BID. TID heparin appeared to be similarly effective as enoxaparin BID (HR 1.17; CI 0.77-1.78; p=0.474). Enoxaparin 40mg daily, although not statistically significant, appeared most effective at preventing VTE (0.61; 0.34 – 1.08; p=0.089). Patients on enoxaparin daily missed an average of 23% of doses versus approximately 16% on all other regimens. Missed doses were not associated with prophylaxis effectiveness.

CONCLUSIONS: Both enoxaparin and heparin are widely used for VTE prophylaxis in varying dosages. BID heparin appears less effective than other dosing regimens and should be avoided. Enoxaparin daily or heparin TID dosing regimens appear equally effective.

Session 07 | Brief Podium 23 (10:50 AM- 10:55 AM)

The Effect of Anesthesia Type on Outcomes of Infrainguinal Bypasses in Vascular Quality Initiative-Medicare-Linked Database

Sina Zarrintan, MD - University of California San Diego, Pooria Nakhaei, MD, MBA - University of California San Diego, Rohini Patel, MD, MPH - University of California San Diego, Ann Gaffey, MD, MS - University of California San Diego, Mahmoud Malas, MD, MHS - University of California San Diego

Presenter: Sina Zarrintan

OBJECTIVE: The ideal anesthesia type with respect to outcomes on infrainguinal bypasses (IIB) remains to be unknown.

BACKGROUND: In this multi-institutional study, we aimed to investigate the effect of neuraxial anesthesia (NA) versus general anesthesia (GA) on perioperative and one-year outcomes of IIBs.

METHODS: The Vascular Quality Initiative-Medicare-linked database was queried for all patients that received IIB between 2011 and 2019. Two cohorts of NA and GA were compared. Primary outcomes included postoperative complications, estimated blood loss (EBL) of ≥ 500 mL, need for RBC transfusion, prolonged length of stay and 30-day mortality. Secondary outcomes included one-year freedom from mortality, reintervention and major amputation and one-year amputation free survival. Logistic regression and one-to-one propensity score matching (PSM) were performed to analyze the perioperative outcomes. Kaplan Meier and Cox regression analyses were used for one-year outcomes.

RESULTS: A total of 28,443 patients (NA=875, 3.1%) were analyzed. PSM produced two well-matched cohorts (706 pairs) and revealed significant greater rates of EBL ≥ 500 mL (RR=1.4 [95% CI: 1.1-1.9]; P=0.014) and RBC transfusion (RR=1.3 [95% CI: 1.0-1.5]; P=0.013) for patients undergoing IIB with GA. The type of anesthesia was not associated with 30-day mortality (Figure). There were no significant differences in one-year outcomes when stratified by anesthesia type (Table).

CONCLUSIONS: We found that patients undergoing IIB by GA have greater blood loss and require more transfusions compared to NA. However, the type of anesthesia does not affect mortality, amputation, or graft function up to one year. We conclude that NA and GA are equally safe for IIBs.

Session 07 | Brief Podium 24 (10:55 AM- 11:00 AM)

Expanding Eligibility for Abdominal Aortic Aneurysm Screening Increases Ultrasounds Without Impacting Diagnosis

John Abbot - Stanford University, Vy Ho - Stanford University, Kenneth Tran, MD - Stanford University, Elizabeth George, MD MS - Stanford University, Manuel Garcia-Toca, MD, MS - Stanford University, Jonathan Chen, MD, PhD - Stanford University, Jason Lee, MD - Stanford University

Presenter: John Abbot

OBJECTIVE: Measuring the impact of increasing eligibility for abdominal aortic aneurysm (AAA) screening on screening ultrasounds and AAA diagnosis.

BACKGROUND: In January 2014, the Centers for Medicare and Medicaid Services increased AAA screening eligibility in 65 to 75-year-old male smokers by eliminating the requirement for referral within the first enrollment year.

METHODS: The Truven Health Marketscan Commercial Claims and Encounters Database with Medicare Supplement claims repository was queried for 65 to 75-year-old males with minimum 1 year of continuous enrollment from January 2006 to December 2016. Patients with prior AAA diagnosis were excluded. The primary endpoint was monthly non-ruptured AAA diagnosis rates, and the secondary endpoint was monthly aortic screening ultrasound rates. Adjusted generalized linear models assessed difference-in-differences against nonsmoking males.

RESULTS: 118,657 males were diagnosed with AAA, 19.7% after policy initiation (Table I). In difference-in-difference analysis adjusted for age, comorbidity, month, and geographic region, policy implementation was not associated with differences in AAA diagnosis (IRR 1.01, p-value = 0.74, Figure 1). 21,301 males underwent screening ultrasound for AAA (Table II). In difference-in-difference analysis adjusted for age, comorbidity, month, and geographic region, policy implementation was associated with a 23.2% increase in AAA screening via ultrasound in smokers versus non-smokers (IRR 1.23, p-value < 0.01, Figure 2).

CONCLUSIONS: In a difference-in-difference analysis of 65 to 75-year-old smoking males, CMS expansion was associated with an 23% increase in AAA screening ultrasounds compared to non-smoking males. Most smokers were not screened, and expansion did not impact AAA diagnosis, suggesting additional efforts to facilitate AAA screening are needed.

Podium Presentations

Session 8

Moderator: Jennifer Watters, MD

Session 8 | Podium 21 (11:00AM - 11:15AM)

Does Tranexamic Acid Increase Thromboembolism Risk Among Trauma Patients? A Prospective Multicenter Analysis

Lisa Knowlton, MD, MPH - Department of Surgery, Stanford University, Katherine Arnow, MS – Stanford University-Surgery Policy Improvement Research and Education Center, Amber Trickey, PhD, MS, CPH – Stanford University-Surgery Policy Improvement Research and Education Center, Angela Sauaia, MD, PhD - School of Public Health and Department of Surgery, University of Colorado, M Margaret Knudson, MD - Department of Surgery, University of California, San Francisco

Presenter: Lisa Marie Knowlton **Discussant:** Lydia Lam **Closer:** Peggy Knudson

OBJECTIVE: To characterize venous thromboembolism (VTE) risk among trauma patients receiving TXA.

BACKGROUND: Tranexamic acid (TXA) has demonstrated benefit among trauma patients in hemorrhagic shock. The association between TXA administration and VTE events (deep vein thrombosis (DVT), pulmonary embolism (PE) and pulmonary thrombosis (PT)) remains unclear. We aimed to evaluate VTE risk among trauma patients receiving TXA.

METHODS: We used prospectively collected observational data from a 17-site Consortium of Leaders in the Study of Traumatic Thromboembolism (CLOTT) study of trauma patients ages 18-40 years, admitted with at least 1 VTE risk factor and followed until hospital discharge up to 30 days. We compared TXA recipients to non-recipients for VTE and mortality using inverse probability weighted Cox models.

RESULTS: Among the 7,331 trauma patients analyzed, 466 (6.4%) received TXA. Patients in the TXA group were more severely injured than patients in the non-TXA group (ISS 16+: 69.1% vs. 48.5%, p<.001) and a higher percentage underwent a major surgical procedure (85.8% vs. 73.6%, p<.001). Among TXA recipients, 12.5% developed VTE (1.3% PT, 2.4% PE, 8.8% DVT) with 5.6% mortality. In the non-TXA group, 4.6% developed VTE (1.1% PT, 0.5% PE, 3.0% DVT) with 1.7% mortality (Figure 1). In analyses adjusting for patient demographic and clinical characteristics, TXA administration was not significantly associated with VTE (aHR 1.00, 95%CI: 0.69-1.46, p=.99) but was significantly associated with increased mortality (aHR 2.01, 95%CI: 1.46-2.77, p<.001).

CONCLUSIONS: While the risk of VTE among trauma patients receiving TXA is high (12.5%) TXA does not appear to be an independent risk factor for VTE.

Session 8 | Podium 22 (11:15AM - 11:30AM)

Cost-Effective Analysis of Routine Angiography for Lower Extremity Penetrating Trauma

Nathan Alcasid, MD - University of California, San Francisco-East Bay Cynthia Susai MD University of California, San Francisco-East Bay Kian Banks MD University of California, San Francisco-East Bay Lara Senekjian MD University of California, San Francisco-East Bay Gregory Victorino MD University of California, San Francisco-East Bay

Presenter: Nathan Alcasid **Discussant:** Greg Magee **Closer:** Lara Senekjian

OBJECTIVE: The aim of the study is to determine if routine computed tomographic angiography (CTA) is cost-effective in isolated, lower extremity penetrating trauma.

BACKGROUND: Routine evaluation with CTA for patients with isolated lower extremity penetrating trauma and normal ankle-brachial-indices (ABI) remains controversial. While prior literature has found normal ABI's (≥0.9) and a normal clinical examination to be adequate for safe discharge, there remains concern for missed injuries which could lead to delayed surgical intervention and unnecessary morbidity. Our hypothesis was that routine CTA after isolated lower extremity penetrating trauma with normal ABIs and clinical examination is not cost-effective.

METHODS: We performed a decision-analytic model to evaluate the cost-effectiveness of routine CTA compared to clinical observation and ABI evaluation in hemodynamically normal patients with isolated penetrating lower extremity trauma. Our base case was a hemodynamically normal patient that sustained penetrating lower extremity trauma with normal ABIs. Costs, probability, and Quality-Adjusted Life Years (QALYs) were generated from published literature.

RESULTS: Clinical evaluation (no CTA) was cost-effective with a net cost of $1,568.00 and QALYs of 0.99 compared to routine CTA which had a net cost of $13,398.00 and QALYs 0.92. After one-way sensitivity analysis, clinical evaluation (no CTA) was the dominant strategy in all iterations with decreased cost and increased utility.

CONCLUSIONS: Patients with isolated, penetrating lower extremity trauma with normal ABIs and clinical examination do not warrant routine CTA as there is no benefit with increased costs.

**Paper Sponsor Gregory Victorino*

Session 8 | Podium 23 (11:30AM - 11:45AM)

Reimaging of High-Grade Blunt Hepatic Injuries: A Multicenter Study

Caitlyn Braschi, MD - Harbor-UCLA Medical Center, Lara Senekjian, MD - University of California, San Francisco-East Bay, Philip Brennan, MD - University of California, San Francisco-East Bay, Janelle Cyprich, MD - Harbor-UCLA Medical Center, Jessica Keeley, MD - Harbor-UCLA Medical Center

Presenter: Caitlyn Braschi **Discussant:** Martin Schreiber **Closer:** Jennifer Smith*

OBJECTIVE: To determine the value of reimaging and compare the value of reimaging between low- and high-grade blunt hepatic trauma.

BACKGROUND: Traumatic liver injuries are associated with significant morbidity and mortality. The value of routine imaging surveillance is controversial, and whether the value varies by the degree of injury is unknown.

METHODS: A multicenter retrospective review was performed at two level I trauma centers from 2015-2020. Adults with grades 2-5 liver lacerations following blunt trauma were included. Reimaging patterns, need for reintervention, and 30-day outcomes of grades 2/3 injuries were compared to grades 4/5.

RESULTS: A total of 229 patients were included, 69.9% with grades 2/3 injuries, 30.1% with grades 4/5. Overall mortality was 15.3%. Grades 4/5 injuries were more likely to be reimaged (69.2% vs 32.7%, $p<0.001$). There was no difference in the days from injury to reimaging (4.5 vs 5.5, $p=0.49$). Patients with grades 4/5 injuries had more liver-specific complications (23.1% vs 2.0%, $p<0.001$) and required more reinterventions (19.2% vs 2.6%, $p<0.001$). Length of stay was longer (15.5 vs 10.3 days, $p=0.044$), and 30-day mortality was higher (27.5% vs 10.0%, $p<0.001$) for grades 4/5 injuries. In multivariate analysis controlling for extrahepatic injuries, grades 4/5 injuries (OR 3.10, 95%CI 1.38-6.94, $p=0.006$) and initial operative or IR management (OR 4.66, 95%CI 2.18-9.99, $p<0.001$) were independently associated with reimaging.

CONCLUSIONS: A majority of patients with the highest-grade hepatic injuries undergo repeat imaging in the first several days following injury and 19% require reintervention. Given the high rate of reintervention, routine imaging surveillance should be considered.

**Paper Sponsor Jennifer Smith*

Session 8 | Podium 24 (11:45 AM - 12:00 PM)

Patient-Level Factors Associated with Screening for Intimate Partner Violence at a Level 1 Trauma Center

Hannah Decker, MD - University of California, San Francisco, Marisa Schwab, MD - University of California, San Francisco, Shirley Shao, BS - University of California, San Francisco, Dahlia Kaki, BA - University of California, San Francisco, Caroline Melhado, MD - University of California, San Francisco, Joseph Cuscieri, MD - University of California, San Francisco, Tasce Bongiovanni, MD, MPP, MHS - University of California, San Francisco

Presenter: Hannah Decker **Discussant:** Rochelle Dicker **Closer:** Tasce Bongiovanni

OBJECTIVE: A resident-designed quality improvement (QI) project aimed to increase screening for intimate partner violence (IPV) in patients admitted following trauma. We sought to understand factors associated with lack of screening for IPV.

BACKGROUND: IPV is a common public health problem, particularly in trauma patients. Given IPV affects all demographics, universal screening is encouraged. Our QI project aimed to improve IPV awareness and screening through an educational curriculum and integration into pre-existing workflows.

METHODS: During July 2020-July 2022, surgical residents and trauma nurse practitioners were trained to screen for IPV. The charts of patients admitted after trauma were analyzed for patient-level factors that affected screening rates. Screened and unscreened patients were compared using chi-squared statistical testing.

RESULTS: Systematic screening of IPV infrequently occurred prior to implementation but increased by 15% following implementation. There was no significant difference in screening attempt by patient age, sex, housing status, ethnicity, language preference or sexual orientation (Table). Screening did vary based on trauma activation with fewer patients screened at highest activation levels. Sustaining a fall was the mechanism most likely to result in screening, while motor vehicle crashes were screened less. Of patients who were successfully screened, 31% screened positive for IPV.

CONCLUSIONS: Our project successfully led to increased screening rates. Of those screened, the positivity rate is alarmingly high. Mechanism of injury appears to play a role in screening, but further study is needed to understand the underlying challenges of IPV screening.

Podium Presentations

Session 9

Moderator: Gail Tominaga, MD

Session 9 | Podium 25 (8:00AM - 8:15AM)

Hollow Viscus Injury Prediction Scoring System for Abdominal Seatbelt Sign: A PCSA Multicenter Study

Jeffrey Santos, MD - University of California, Irvine, Patrick Delaplain, MD - University of California, Irvine, Erika Tay-Lasso, MD - University of California, Irvine, Walter Biffl, MD - Scripps Memorial Hospital La Jolla, Kathryn Schaffer, MPH - Scripps Memorial Hospital La Jolla, Margaret Sundel, MD - R Adams Cowley Shock Trauma Center, Mira Ghneim, MD - R Adams Cowley Shock Trauma Center, Todd Costantini, MD - University of California, San Diego School of Medicine, Jarrett Santorelli, MD - University of California, San Diego School of Medicine, Emily Switzer, MD - Los Angeles County/University of Southern California Medical Center, Morgan Schellenberg, MD, MPH - Los Angeles County/University of Southern California Medical Center, Jessica Keeley, MD - Harbor-UCLA Medical Center, Dennis Kim, MD - Harbor-UCLA Medical Center, Andrew Wang, MD - Cedars-Sinai Medical Center, Navpreet Dhillon, MD - Cedars-Sinai Medical Center, Deven Patel, MD - Cedars-Sinai Medical Center, Eric Campion, MD - Denver Health Medical Center, Caitlin Robinson, MPH - Denver Health Medical Center, Susan Kartiko, MD, PhD - The George Washington University School of Medicine & Health Sciences, Megan Quintana, MD - The George Washington University School of Medicine & Health Sciences, Jordan Estroff, MD - The George Washington University School of Medicine & Health Sciences, Katharine Kirby, MS - University of California, Irvine, Areg Grigorian, MD - University of California, Irvine, Jeffry Nahmias, MD, MHPE - University of California, Irvine

Presenter: Jeffrey Santos **Discussant:** Timothy Browder **Closer:** Jeffry Nahmias

OBJECTIVE: Develop a novel risk scoring system to predict hollow viscus injury (HVI) in patients with abdominal seatbelt sign (A-SBS).

BACKGROUND: Prior studies have demonstrated high-quality computed tomography (CT) imaging can exclude HVI in A-SBS patients. However, CT has performed poorly at predicting HVI in previous studies. This study aimed to develop a risk scoring system incorporating physiologic, exam, laboratory, and imaging findings to identify patients at highest risk of HVI.

METHODS: A prospectively collected, multicenter database of A-SBS patients (n=754) was used to develop a HVI risk score. A split sample database was used for development (70%) and validation (30%) of the model. Candidate variables selected by Lasso regression in the training set were fit using probit regression modeling in the validation dataset. Predicted probability of HVI for each individual in the validation dataset was calculated, resulting in three risk categories.

RESULTS: The Lasso procedure selected 13 variables which included initial blood pressure and heart rate, exam findings, repeat white blood cell count and select CT findings. Using a predicted probability of ≥ 0.5, model performance on the validation set correctly classified 93% of individuals with the following classification statistics: sensitivity 60%, specificity 97.4%, PPV 75%, NPV 94.9%. Three risk categories were identified (Low, Medium and High) with the following actual/observed HVI rates: 0%, 6.1%, and 46%.

CONCLUSIONS: This scoring system using clinically available variables effectively risk-stratifies patients with A-SBS for the presence of HVI and may help guide difficult decisions regarding when to operate on A-SBS patients.

Session 9 | Podium 26 (8:15 AM - 8:30 AM)

Barriers and Facilitators of Surgical Prehabilitation Adherence from the Patient Perspective: A Mixed Methods Study

Cintia Sakurai Kimura, MD PhD - Stanford University, Department of Surgery, Yuning Liu, RN – Stanford University Prevention Research Center, School of Medicine, Sarah Elizabeth Crowder, BS(c) - Brigham Young University, Carlie Arbaugh, MD - Stanford University, Department of Surgery, Kreeti Shankar, MPH - Stanford University, Department of Surgery, Andrew Shelton, MD - Stanford University, Department of Surgery, Brendan Visser, MD - Stanford University, Department of Surgery, Cindy Kin, MD, MS - Stanford University, Department of Surgery

Presenter: Cintia Kimura **Discussant:** James Dolan **Closer:** Cindy Kin

OBJECTIVE: To identify the barriers and facilitators that affect adherence to prehabilitation among surgical patients awaiting major gastrointestinal operations.

BACKGROUND: The potential benefits of prehabilitation on functional and post-operative outcomes depend on patient adherence to the program. Identifying and addressing barriers while supporting facilitators of adherence is critical to maximizing the benefit of prehabilitation programs.

METHODS: This mixed-methods study with convergent design and merged integration included patients enrolled in an app-based prehabilitation program. We collected data on barriers to physical activity and healthy eating upon enrollment. Patients had the opportunity via a voluntary sampling method to participate in a postoperative semi-structured interview focused on their experience with the program. Interviews were performed until we reached thematic saturation. Four members of the research team individually coded the interview transcripts and then discussed the key themes to consensus. Barriers and facilitators from the quantitative survey data and the qualitative interview data were mapped onto the Theoretical Domains Framework (Table 1).

RESULTS: Facilitators of prehabilitation adherence include increased self-efficacy, prior experience with healthful eating and exercise, access to healthful foods, gamification and motivation from the activity tracker and the app, desire to improve quality of life and longevity, and social support. Barriers include gastrointestinal ailments that limited tolerance to food, orthopedic problems, preconceptions of particular diets, disordered relationship to food, environmental factors such as extreme weather, and social events.

CONCLUSIONS: This study provides an in-depth understanding of barriers and facilitators to patient adherence to prehabilitation, informing strategies to improve patient adherence in future programs for maximal patient benefit.

Session 9 | Podium 27 (8:30 AM - 8:45 AM)

A Prospective Study of Medical Legal Needs in Emergency General Surgery and Trauma Patients

Nicole DePolo - Loma Linda University Health, Karen Bathan, BS - Loma Linda University Health, Zachary Tran, MD - Loma Linda University Health, Jiahao Peng, MD, MPH - Loma Linda University Health, Pramil Singh, Dr.PH - Loma Linda University Health, Sharon Lum, MD, MBA - Loma Linda University Health, Esther Wu, MD - Loma Linda University Health

Presenter: Nicole DePolo **Discussant:** Rachael Callcut **Closer:** Esther Wu

OBJECTIVE: To assess medical legal needs (MLN) among emergency general surgery (EGS) and trauma patients.

BACKGROUND: MLN are social problems that negatively affect patient health and can be reversed by legal means.

METHODS: Adult (≥18 years) EGS/trauma patients admitted July 7-28, 2020, at a Level 1 trauma Center were prospectively surveyed with the validated Medical Legal Needs Assessment Questionnaire at admission and 1-year follow up. We assessed changes in reported MLN and 1-year readmissions.

RESULTS: Of 109 eligible patients, 47.7% (52/109) completed initial and 69.2% (36/52) completed 1-year follow-up surveys. Average age was 43±19 years, with 65.4% male, 50.0% Hispanic/Latino, 40.4% non-Hispanic White, 7.7% Black, 42.8% public insurance, and 50.0% trauma admissions. Overall MLN were reported by 77.8% (28/36) and 63.9% (23/36) of patients on initial and follow up questionnaires, respectively. Income-related concerns were most common with 52.7% (19/36) on initial and 47.2% (17/36) at 1-year survey (Figure 1). Statistical analysis showed that compared to EGS, trauma patients had more overall MLN on initial and follow up evaluations (p=0.006, p=0.02, respectively). Compared with non-Hispanic patients, Hispanic patients reported more education/employment concerns on initial survey (p=0.014) and fewer income concerns (p=0.028) at one year. Readmissions were 27.8% (10/36) at one year and were not significantly associated with initial or follow up individual or overall MLN.

CONCLUSIONS: MLN are prevalent among EGS and especially trauma patients. Interactions between patient factors and MLN merit further investigation to determine if legal resources can improve outcomes in patients with acute surgical needs.

Session 9 | Podium 28 (8:45 AM - 9:00 AM)

Closure of a Trauma Center Was Associated with An Increase in Mortality in Surrounding Centers

Neil Thivalapill, MD - Northwestern University Feinberg School of Medicine, Meilynn Shi, BA - Northwestern University Feinberg School of Medicine, Casey Silver, MD - Northwestern University Feinberg School of Medicine, Michael Visenio, MD - Northwestern University Feinberg School of Medicine, Gwyneth Sullivan, MD - Northwestern University Feinberg School of Medicine, Tasce Bongiovanni, MD - University of California, San Francisco, Anne Stey, MD - Northwestern University Feinberg School of Medicine

Presenter: Neil Thivalapill **Discussant:** Jennifer Smith **Closer:** Anne Stey

OBJECTIVE: This study sought to use quasi-experimental design to evaluate the association between closure of a Level I trauma center and changes in in-hospital mortality among injured patients in Fresno, California.

BACKGROUND: In 2007, University Medical Center (UMC) closed, allowing for a natural experiment to determine whether in-hospital mortality changed between the three remaining trauma centers in the Central California EMS region and all other hospitals in the region.

METHODS: The cohort of injured patients presented in the Central California EMS Region (Fresno, Madera, Tulare Counties) between 2001-2012. Patients from the surrounding trauma centers were propensity-score matched to those from the other hospitals, which served as a control, based on demographics, type of injury, and injury severity. A difference-in-difference analysis was used to estimate the effect of UMC's closure on in-hospital mortality. We compared the change in in-hospital mortality from the pre-closure period (2000-2006) to the post-closure period (2007-2012) in surrounding trauma centers to that in the remaining hospitals.

RESULTS: A total of 31,367 injured patients were treated in the remaining trauma centers and 33,181 in all other hospitals. Pre-closure, the difference in in-hospital mortality between surrounding trauma centers and all other hospitals was not significant (RD:-0.3%, SE 0.2, $p=0.2$). Post-closure, the difference in in-hospital mortality was significantly higher (RD:0.9%, SE=0.3, $p<0.001$). UMC closure after adjusting for secular trends was associated with an increase in the difference in mortality of 1.1% (SE=0.3, $p<0.001$).

CONCLUSIONS: Closure of a region's trauma center caused an increase in trauma-related in-hospital mortality among injured patients hospitalized in surrounding trauma centers.

**Paper Sponsor Tasce Bongiovanni*

Brief Podium Presentations

Session 10

Moderators: Daniel Margulies, MD

Naveenraj Solomon, MD

Session 10 | Brief Podium 25 (9:00 AM- 9:05 AM)

10-52 Roll an Ambulance—Outcomes of Injured Suspects Sustaining Gunshot Wounds from Law Enforcement Action

Zachary Tran, MD - Loma Linda University Health, Nam Cho, BS - University of California, Los Angeles, Nicole DePolo, MD - Loma Linda University Health, Sharon Lum, MD - Loma Linda University Health, Peyman Benharash, MD - University of California, Los Angeles, Kaushik Mukherjee, MD - Loma Linda University Health

Presenter: Zachary Tran

OBJECTIVE: We compared patient characteristics, hospital outcomes, and resource utilization between law enforcement suspects and other gunshot wound victims.

BACKGROUND: Despite recent high-profile cases, research is lacking regarding firearm injuries associated with law enforcement activities.

METHODS: The 2016-2019 National Inpatient Sample was queried for patients ≥16 years old admitted following gunshot wounds. Injured suspects (IS) were defined as those involved in legal interventions with law enforcement. The primary outcome was in-hospital mortality with complications, hospitalization duration (LOS), and costs secondarily considered. Multivariable regression models were used to adjust for patient characteristics, injury burden per the Trauma Mortality Prediction Model (TMPM), hospital factors, among others.

RESULTS: Of an estimated 106,230 admissions, 1,320 (1.24%) were IS. Compared to others, IS were less commonly female sex (4.5 vs 10.9%) and Black race (25.7 vs 53.5%) but had greater rates of psychiatric comorbidities (18.2 vs 6.2%) (all $p<0.05$). They more frequently underwent thoracic (12.9 vs 4.1%) and gastrointestinal operations (34.1 vs 26.0%) (all $p<0.05$) while having a similar requirement for major operations (72.0 vs 69.8%, $p=0.44$) and TMPM score (0.016 (IQR:0.004-0.13) vs 0.008 (0.004-0.080), $p=0.31$). After adjustment, IS was associated with greater odds of mortality (AOR:1.95, 95% CI:1.17-3.22), respiratory failure, and need for intensive care (Figure). Incremental LOS (β: +2.6 days, 95%CI: 0.5-4.6) and costs (β: +$11.3K, 95%CI: 3.0-19.6) were significantly greater in IS compared to others.

CONCLUSIONS: Suspects injured with firearms during legal interventions were observed to have significantly worse clinical outcomes and resource use compared to others. Our findings may help inform use-of-force research and policy discussions.

Session 10 | Brief Podium 25 (9:50 AM- 9:55 AM)

Association Between TXA and Mortality Based on ICH Type in Moderate or Severe TBI

William McKinley, MD - University of Chicago, Susan Rowell, MD, MBA, MCR - University of Chicago, Martin Schreiber, MD - Oregon Health & Science University, Ali Mansour, MD - University of Chicago, Ann Polcari, MD, MPH, MSGH - University of Chicago, Lea Hoefer, MD - University of Chicago, Timothy Plackett, DO, MPH - University of Chicago, Tanya Zakrison, MD, MPH - University of Chicago, Fernando Goldenberg, MD - University of Chicago, Christos Lazaridis, MD - University of Chicago, Andrew Benjamin, MD, MS - University of Chicago

Presenter: William McKinley

OBJECTIVE: To determine if intracranial hemorrhage (ICH) lesion type impacts outcome in patients with TBI who receive TXA.

BACKGROUND: Early tranexamic acid (TXA) administration reduces head injury related mortality.

METHODS: We performed a retrospective analysis of a prehospital trial of TXA administered within 2 hours of injury in patients with blunt moderate/severe TBI to determine the association between TXA and long-term outcomes stratified by ICH lesion type on admission head CT. Patients with prehospital GCS<13 and SBP>90 were randomized to placebo, 2g TXA bolus, or 1g TXA bolus+1g 8-hour TXA infusion. Multivariate cox and linear regression models were created to identify predictors of 28-day mortality and 6-month functional outcome (Disability Rating Scale score [DRS]) controlling for age, gender, race, GCS, AIS-head, and additional lesion types.

RESULTS: Demographic and physiologic data were similar among groups. Of 503 patients with ICH, 326 had multiple lesions while 177 had an isolated lesion (Table 1). A 2g TXA bolus was associated with lower mortality and improved functional outcome compared to placebo in subdural (mortality HR 0.43, p<0.002; DRS OR -4.07, p<0.02), subarachnoid (mortality HR 0.57, p<0.03; DRS OR -2.65, p<0.05), and intraventricular hemorrhage (mortality HR 0.41, p<0.05; DRS OR -6.21, p<0.05) (Table 2). No difference was observed in epidural or intraparenchymal lesions. A 1g bolus + 1g TXA infusion did not affect mortality or DRS in any subgroup.

CONCLUSIONS: The impact of a 2g TXA bolus on mortality and long-term functional outcome may be associated with ICH lesion type in patients with moderate/severe TBI.

Session 10 | Brief Podium 26 (9:05 AM- 9:10 AM)

Years of Life Lost due to Firearm Suicide Mortality Among Young People in the US

Stephanie Garcia, MD - University of Oklahoma- Tulsa Parker Entrup, B.S. - The Ohio State University, O. Trent Hall, D.O. - The Ohio State University Wexner Medical Center, Megan Deaner, MSW - The Ohio State University Wexner Medical Center, Arielle Thomas, MD, MPH, MS - American College of Surgeons, Committee on Trauma, Robert Lim, MD - University of Oklahoma- Tulsa

Presenter: Stephanie Garcia

OBJECTIVE: To describe the burden of years of life lost by young people due to firearm suicide.

BACKGROUND: Firearm suicide deaths continue to rise in the United States. Although much is known about the incident deaths and vital statistics, not much is known about the Years of Life Lost (YLL) to society in the young people population (Ages 10-24).

METHODS: This cross-sectional retrospective study involved summary-level death records from January 1, 2013, through December 31, 2020 for young people ages 10 through 24 years with CDC's Wide-ranging Online Data for Epidemiologic Research (WONDER) mortality file, extracting all mortality cases on suicide and filtered for mechanism to find firearm usage. The burden of firearm mortality intent was calculated in YLL as standard life expectancy minus age at death.

RESULTS: In the 8-year study period a total of 2,892,552 YLL were seen due to suicide in young people. In 2020 alone there were 387,980.67 YLL. Almost 200,000 YLL were due to gun suicide. Our data shows that 50% of suicide deaths in 2020 among young people involved firearms. Suicide was the third leading cause of death for this population in 2020, preceded by accidents and assaults, with firearm suicide making up a great portion of that.

CONCLUSIONS: Young people lost almost 200,000 YLL in one year due to gun suicide. A greater burden than other mortality causes and a greater burden than other suicide mechanisms.

Session 10 | Brief Podium 27 (9:10 AM- 9:15 AM)

Forgotten Branch of the Intercostal Nerve: Implication for Cryoablation Nerve Block for Pectus Excavatum Repair

Joel Talsma, MS - University of New England College of Osteopathic Medicine, Melanie Kusakavitch, BS - University of New England College of Osteopathic Medicine, Dawon Lee, BS - University of New England College of Osteopathic Medicine, Christoph Niederhauser, BS - University of New England College of Osteopathic Medicine, Doruk Ozgediz, MD - University of California, San Francisco, Olajire Idowu, MD - University of California, San Francisco, Sunghoon Kim, MD - University of California, San Francisco

Presenter: Sunghoon Kim

OBJECTIVE: Post-operative Nuss procedure cryoanalgesia pain control can be improved if intercostal nerve anatomy is better understood.

BACKGROUND: We first reported in 2016 the use of cryoanalgesia for Nuss procedure. One unexpected observation from intercostal nerve cryoablation for Nuss procedure has been an apparent delay in full regional anterior chest block after cryoablation. This prompted us to investigate the anatomy of the intercostal nerve in human cadavers to better understand this observation.

METHODS: Cadaver Study: Adult cadavers were used to visualize the branching patterns of the intercostal nerves. Cryoablation: The main intercostal nerve, lateral cutaneous branch, and the collateral branch medial to the mid-axillary line for intercostal nerves 4,5,6 and 7 were cryoablated under thoracoscopic view. Verbal pain scores were obtained from the patients on post-operative day one.

RESULTS: 11 cadavers were dissected. Total of 92 lateral cutaneous branches of the intercostal nerve were dissected and measured as they pierced the intercostal muscle. Most lateral cutaneous branches of the intercostal nerve pierced the intercostal muscle posterior to midaxillary line 78.3%, anterior to midaxillary line 18.5% or on the midaxillary line 3.3%. The collateral branch of the intercostal nerve separated near the spine and travelled along the superior surface of the next lower rib. 22 male patients underwent Nuss procedure and cryoanalgesia. Mean age was 14.8 year, mean Haller index was 3.97, mean Pain score (0 to 10 maximum) was 0.86.

CONCLUSIONS: With improved anatomical understanding of Intercostal Nerve and its branches minimal post-operative pain can be achieved when cryoablation is used for Nuss Procedure.

Session 10 | Brief Podium 28 (9:15 AM- 9:20 AM)

Antegrade Continence Enema for Patients with Hirschsprung Disease: A Retrospective Multi-Institutional Study

Hira Ahmad - Seattle Children's Hospital, Caitlin Smith, MD - Seattle Children's Hospital, Richard Wood, MD - Nationwide Children's Hospital

Presenter: Hira Ahmad

OBJECTIVE: To determine if antegrade continence enema (ACE) is effective for patients with Hirschsprung Disease (HD) and fecal incontinence (FI).

BACKGROUND: There is paucity of literature in the management of fecal incontinence in patients with HD.

METHODS: Patients with HD and persistent FI from two institutions were retrospectively reviewed. FI was defined as one or more episodes of fecal soiling per week. Patients <21 years old who had a pull-through and subsequent ACE with at least one year follow-up were included. Patient characteristics, dentate line status, and anorectal manometry findings were summarized. Associations with FI were evaluated using Fisher's exact test and Wilcoxon rank-sum test.

RESULTS: A total of 65 patients were included in the study (males n=49, 75%). The median age at time of the pull-through was 3 months (IQR 1, 13.5). At one-year follow-up, 32 (49%) were clean. Compared to patients who were not clean, patients who were continent were more likely to have a transition zone in the rectosigmoid colon (n=13, 39% vs n=22, 69% p=0.017), and more likely to have a complete dentate line on anorectal exam (n=6, 18% vs n=15, 47% p=0.013). The patients who underwent redo pull-through were more likely to be FI than those who underwent primary pull-through alone (n=20, 63% vs n=11, 33% p=0.001).

CONCLUSIONS: Patients post pull-through with fecal incontinence may benefit from ACE. The success rate of ACE may be better in patients who underwent primary pull-through, had a complete dentate line, and had their initial transition zone in the rectosigmoid colon.

Session 10 | Brief Podium 29 (9:20 AM- 9:25 AM)

Emergency Department Visits: An Improvement Opportunity for Ambulatory Surgery

Charlotte Rajasingh, MD - Stanford University, Sherry Wren, MD - Stanford University

Presenter: Charlotte Rajasingh

OBJECTIVE: Examine differences in post-operative ED visits following surgery at freestanding ambulatory-surgery centers (FASCs) versus hospital-owned surgical centers (HOSCs).

BACKGROUND: Post-operative ED visits after ambulatory surgery are costly, potentially preventable, and a CMS quality measure. It is unknown if post-operative ED visit rates differ following surgery at FASCs and HOSCs.

METHODS: Elective ambulatory surgery outpatients [cholecystectomy, knee arthroplasty (KA), and transurethral resection of the prostate (TURP)] were identified across HCUP ambulatory/ED/inpatient databases (SASDs, SEDDs, and SIDs) from Wisconsin, New York, and Florida. We compared 30-day post-operative ED visit and readmission rates between FASCs and HOSCs. With multivariate regression, we calculated odds of 30-day ED visit controlling for patient factors.

RESULTS: 138,542 patients were identified from 710 facilities (188 FASCs; 522 HOSCs). Cholecystectomy was most common (n=116,090) followed by TURP (n=13,760) and KA (n=8,692). For all three procedures, the unadjusted rates of ED visits were significantly lower following surgery at FASCs compared with HOSCs (cholecystectomy:5.6% vs. 7.6%; KA:4.2% vs. 6.0%; TURP:10.3% vs. 12.0%, $p<0.01$ for all). There was no significant difference in readmission rates for all 3 operations. In multivariate analysis, surgery at a FASC was associated with a lower odd of 30-day ED visit (cholecystectomy:0.81 (0.73-0.91); KA:0.81 (0.66-1.01); TURP:0.81 (0.71-0.93).

CONCLUSIONS: Patients who underwent surgery at FASCs for three complex procedures were less likely to visit the ED, yet readmissions, which are less discretionary than ED visits, were similar. Variability in process of care measures could explain these differences and exploring mechanisms that underlie this difference should be the focus of further work.

Session 10 | Brief Podium 30 (9:25 AM- 9:30 AM)

Witnessed Prehospital Traumatic Arrest: Predictors of Survival to Hospital Discharge

Morgan Schellenberg, MD MPH – Los Angeles County/University of Southern California Medical Center, Natthida Owattanapanich, MD - Los Angeles County/University of Southern California Medical Center, Chaiss Ugarte, MD - Los Angeles County/University of Southern California Medical Center, Lydia Lam, MD - Los Angeles County/University of Southern California Medical Center, Matthew Martin, MD - Los Angeles County/University of Southern California Medical Center, Kenji Inaba, MD - Los Angeles County/University of Southern California Medical Center

Presenter: Morgan Schellenberg

OBJECTIVE: Analysis of Emergency Medical Services (EMS)-witnessed traumatic arrests to identify survivors to discharge.

BACKGROUND: Trauma patients are rapidly transported to hospital for definitive care. Nonetheless, some are alive upon EMS arrival but arrest on-scene/during transport.

METHODS: Patients sustaining EMS-witnessed traumatic arrest and entered into the National Trauma Data Bank were included (2007-2018). Mortality defined groups: survival to hospital discharge vs. in-hospital death vs. death in ED/declared dead on arrival (DOA). ANOVA/Chi-square compared cohorts. Multivariable analysis established factors associated with survival out of ED and to hospital discharge.

RESULTS: 14,177 patients met criteria: 10% survived, 22% died in-hospital, and 68% died in ED/DOA. Survivors tended to be female (33% vs. 23% vs. 23%, p<0.001), blunt traumas (71% vs. 56% vs. 60%, p<0.001), have higher scene GCS (15[7-15] vs. 3[3-11] vs. 3[3-7], p<0.001), and lower injury severity (ISS 13[7-26] vs. 27[18-41] vs. 25[10-30], p<0.001), particularly of the head (AIS 0[0-2] vs. 0[0-4] vs. 1[0-4], p<0.001). Survival out of ED and to discharge, respectively, were independently associated with younger age (OR 0.990,p<0.001; OR 0.983,p<0.001), female sex (OR 0.801,p<0.001; OR 0.706,p<0.001), and higher scene SBP (OR 1.004,p<0.001; OR 1.007,p<0.001) and GCS (OR 1.122,p<0.001; OR 1.245,p<0.001). Penetrating injury was associated with reduced survival to discharge (OR 0.579,p<0.001).

CONCLUSIONS: After EMS-witnessed traumatic cardiac arrest, survivors were more likely to be young, female, injured by blunt trauma, and less hypotensive/comatose on-scene. These findings may have implications for ED resuscitation or declaration of care futility and should be further investigated with prospective multicenter study.

Session 10 | Brief Podium 31 (9:30 AM- 9:35 AM)

Intubation For Trauma Work-Up in Non-Injured Patients: Increased Length of Stay and Death

Areg Grigorian, MD - University of California, Irvine, Cristobal Barrios, MD - University of California, Irvine, Michael Lekawa, MD - University of California, Irvine, Lourdes Swentek, MD - University of California, Irvine, Kenji Inaba, MD - University of Southern California, Morgan Schellenberg, MD - University of Southern California, Jeffry Nahmias, MD - University of California, Irvine

Presenter: Areg Grigorian

OBJECTIVE: We hypothesized that intubation upon arrival for blunt trauma patients ultimately found to be non-injured is associated with a higher risk of complications and increased length of stay (LOS).

BACKGROUND: Uncooperative trauma patients may require intubation upon arrival to facilitate trauma work-up.

METHODS: The 2017-2019 TQIP was queried for adults presenting after blunt trauma with no significant injury (abbreviated injury scale <1 head/face/neck/spine/chest/abdomen/upper-extremity/lower-extremity) and Glasgow Coma Scale >13. Hypotensive patients or those requiring urgent operation were excluded. Patients intubated within one-hour were compared to patients not intubated. A multivariable logistic regression analysis was performed.

RESULTS: From 139,017 patients, 823 (0.6%) were intubated upon arrival. The mean duration of intubation was two-days. The intubated group had a higher rate and adjusted risk of overall complications (2.8% vs. 0.5%, p<0.001) (OR 7.48, CI 4.82-11.61, p<0.001) and mortality (2.9% vs. 0.2%, p<0.001) (OR 38.95, CI 23.93-63.41, p<0.001). Among survivors, the intubated group had a longer mean LOS (4.0 vs. 2.5 days, p<0.001). All findings remained similar when analyzing a subgroup of patients <65-years-old (p<0.001).

CONCLUSIONS: Intubation to facilitate trauma work-up in non-injured patients is associated with prolonged hospitalization and increased risk of complications and death. While it may be necessary to intubate select patients that may not have significant traumatic injuries, these results suggest that alternative methods of facilitating timely trauma work-up should be investigated. Prospective research is needed to determine if protocolized safe practices to avoid intubation of potentially uninjured trauma patients can help improve outcomes within this population.

Session 10 | Brief Podium 32 (9:35 AM- 9:40 AM)

Predicting Respiratory Failure Following Major Elective Operations Using a Machine Learning Model

Catherine Williamson, BS - University of California Los Angeles, Sara Sakowitz, MS MPH - University of California Los Angeles, Arjun Verma - University of California Los Angeles, Peyman Benharash, MD - University of California Los Angeles

Presenter: Catherine Williamson

OBJECTIVE: The current study aimed to establish a preoperative scoring system for major elective general operations to estimate risk of postoperative acute respiratory failure (ARF).

BACKGROUND: ARF is a feared postoperative complication, with a mortality rate estimated to approach 25% in select patient populations. However, it remains challenging to predict in the postoperative setting.

METHODS: Using the Nationwide Readmissions Database 2010-2018, adults were selected who underwent major elective operations including colectomy, esophagectomy, hepatectomy, gastrectomy, pancreatectomy, and abdominal aortic aneurysm repair. A logistic multivariable-adjusted model was generated with Elastic Net methodology, which uses a machine learning algorithm to maximize out-of-sample validity and reduce the potential for overfitting. The data were divided into equal derivation and validation subsets to authenticate the model with a naïve dataset, across 10-fold cross-validation.

RESULTS: Utilizing the hospitalizations of 5,000,231 patients, the final model included age, alcohol abuse, cancer, arrhythmias, CHF, coagulopathy, COPD, liver dysfunction, renal failure and operative type, each appropriately weighted to amount to a total score of 25 points. As shown in Figure 1, compared to a score of 1, a score of 25 was associated with almost 100-fold risk of ARF (0.24 vs 21.2%, $p<0.001$). This model was found to have a C-statistic of 0.86 (Figure 2). The score was validated using the Pearson χ 2 goodness-of-fit test ($\chi 2=791.95$, $p<0.001$).

CONCLUSIONS: This study describes a user-friendly, calculatable score which accurately predicts postoperative ARF in major elective operations. This score may be beneficial in the preoperative period, in order to risk-stratify patients and better assess surgical candidacy.

Session 10 | Brief Podium 33 (9:40 AM- 9:45 AM)

Time to Change the Basics: Revisiting Outcomes After Resuscitative Thoracotomy

Navpreet Dhillon, MD - R Adams Cowley Shock Trauma Center, University of Maryland, Megan Brenner, MD – University of California, Los Angeles, Rochelle Dicker, MD – University of California, Los Angeles, Thomas Scalea, MD - R Adams Cowley Shock Trauma Center, University of Maryland

Presenter: Navpreet Dhillon

OBJECTIVE: Duration of prehospital cardiac arrest is a criteria for the use of Resuscitative Thoracotomy (RT) in penetrating trauma. We investigated if additional characteristics were associated with return of a perfusing rhythm (PR) to identify patients that may benefit from RT.

BACKGROUND: New resuscitation schemes, such as early blood transfusions have increased survival in severely injured patients. Survival after RT has traditionally been below 5% but more modern strategies may increase survival in selected patients.

METHODS: We retrospectively reviewed patients treated with RT for penetrating trauma from 2010-2020 at our high-volume center. We analyzed demographics, prehospital time, and injury patterns. Patients who achieved PR and were transported to the operating room were compared to those who died in the ED (NPR).

RESULTS: Of the 515 patients meeting inclusion criteria, 94 (18.3%) achieved PR after RT. Stab wounds (SW's) were more likely to regain PR, $p<0.01$. Age, sex, and prehospital times were the same in PR vs NPR patients. There was no difference in use of open CPR, aortic cross clamping, or clamshell thoracotomy in the two groups. Overall survival was 5.8% but 24.4% of PR patients survived to hospital discharge. PR patients were more likely to have intra-abdominal vascular (NPR 8.1% vs. PR 21.3%, $p<0.01$), hepatic (9.7% vs. 30.9%, $p<0.01$) and splenic (1.7% vs. 10.6%, $p<0.01$) injuries.

CONCLUSIONS: Patients who achieve PR after RT have reasonable survival and more abdominal injuries. Decision-making algorithms should reflect immediate attention to abdominal injuries but not time in the field, especially in SW's.

Session 10 | Brief Podium 34 (9:45 AM- 9:50 AM)

Combined Arterial and Venous Lower Extremity Injury: Prophylactic Fasciotomy as Surgical Dogma Revisited

Areg Grigorian, MD - University of California, Irvine, Nii-Kabu Kabutey, MD - University of California, Irvine, Christian de Virgilio, MD - Harbor UCLA, Michael Lekawa, MD - University of California, Irvine, Sebastian Schubl, MD - University of California, Irvine, Matthew Martin, MD - University of Southern California, Jeffry Nahmias, MD - University of California, Irvine

Presenter: Areg Grigorian

OBJECTIVE: We sought to compare combined arterial/venous (A+V) leg injury with isolated artery or vein injury (AorV) with respect to overall need for prophylactic-fasciotomy/delayed-fasciotomy (PF/DF). Furthermore, we hypothesized that in A+V patients, DF would have a similar risk of amputation and acute kidney injury (AKI) as PF.

BACKGROUND: Surgical dogma has been to perform PF for patients with A+V, as the risk of compartment-syndrome is higher than AorV and DF may lead to greater morbidity. However, this practice may be unnecessary.

METHODS: The 2017-2019 TQIP database was queried for adult patients with an isolated injury to the lower-extremity (abbreviated injury scale <1 head/face/spine/chest/abdomen/upper-extremity) and vascular injury. A multivariable logistic regression analysis was performed.

RESULTS: From 5,184 patients, 1,252 (24.2%) had A+V. Compared to AorV, the A+V group more often underwent PF (7.1% vs. 4.4%, p<0.001) but not DF (1.7% vs. 1.8%, p=0.94). Compared to AorV, the A+V group had a similar adjusted risk of requiring DF (p=0.47). The only predictor of DF was a blunt mechanism (OR 2.07, CI 1.23-3.47, p=0.01). Compared to A+V undergoing PF, A+V requiring DF had similar rates of amputation (10.0% vs. 7.9%, p=0.75) and AKI (0 vs. 10.2%, p=0.14).

CONCLUSIONS: A minority of isolated leg trauma patients with A+V injury underwent PF. Although patients with A+V more often underwent PF than AoV patients, this appears to be associated with the blunt mechanism rather than the combined A+V injury itself. Furthermore, DF did not increase the rates of limb loss or AKI compared to PF.

Session 10 | Brief Podium 25 (9:50 AM- 9:55 AM)

Association Between TXA and Mortality Based on ICH Type in Moderate or Severe TBI

William McKinley, MD - University of Chicago, Susan Rowell, MD, MBA, MCR - University of Chicago, Martin Schreiber, MD - Oregon Health & Science University, Ali Mansour, MD - University of Chicago, Ann Polcari, MD, MPH, MSGH - University of Chicago, Lea Hoefer, MD - University of Chicago, Timothy Plackett, DO, MPH - University of Chicago, Tanya Zakrison, MD, MPH - University of Chicago, Fernando Goldenberg, MD - University of Chicago, Christos Lazaridis, MD - University of Chicago, Andrew Benjamin, MD, MS - University of Chicago

Presenter: William McKinley

OBJECTIVE: To determine if intracranial hemorrhage (ICH) lesion type impacts outcome in patients with TBI who receive TXA.

BACKGROUND: Early tranexamic acid (TXA) administration reduces head injury related mortality.

METHODS: We performed a retrospective analysis of a prehospital trial of TXA administered within 2 hours of injury in patients with blunt moderate/severe TBI to determine the association between TXA and long-term outcomes stratified by ICH lesion type on admission head CT. Patients with prehospital GCS<13 and SBP>90 were randomized to placebo, 2g TXA bolus, or 1g TXA bolus+1g 8-hour TXA infusion. Multivariate cox and linear regression models were created to identify predictors of 28-day mortality and 6-month functional outcome (Disability Rating Scale score [DRS]) controlling for age, gender, race, GCS, AIS-head, and additional lesion types.

RESULTS: Demographic and physiologic data were similar among groups. Of 503 patients with ICH, 326 had multiple lesions while 177 had an isolated lesion (Table 1). A 2g TXA bolus was associated with lower mortality and improved functional outcome compared to placebo in subdural (mortality HR 0.43, p<0.002; DRS OR -4.07, p<0.02), subarachnoid (mortality HR 0.57, p<0.03; DRS OR -2.65, p<0.05), and intraventricular hemorrhage (mortality HR 0.41, p<0.05; DRS OR -6.21, p<0.05) (Table 2). No difference was observed in epidural or intraparenchymal lesions. A 1g bolus + 1g TXA infusion did not affect mortality or DRS in any subgroup.

CONCLUSIONS: The impact of a 2g TXA bolus on mortality and long-term functional outcome may be associated with ICH lesion type in patients with moderate/severe TBI.

Session 10 | Brief Podium 36 (9:55 AM- 10:00 AM)

Resuscitative Endovascular Balloon Occlusion of the Aorta for Non-traumatic Gastrointestinal Bleeding in the US

Matthew Ashbrook, MD, MPH - University of Southern California, Vincent Cheng, MD - University of Southern California, Morgan Schellenberg, MD, MPH - University of Southern California, Matthew Martin, MD - University of Southern California, Kenji Inaba, MD - University of Southern California, Kazuhide Matsushima, MD - University of Southern California

Presenter: Matthew Ashbrook

OBJECTIVE: The objective of this study is to describe outcomes of patients who underwent REBOA for GIB.

BACKGROUND: Resuscitative endovascular balloon occlusion of the aorta (REBOA) for non-traumatic hemorrhagic shock has shown increasing interest for gastrointestinal bleeding (GIB) with sparse data.

METHODS: The National Inpatient Sample was queried for patients with GIB who underwent REBOA between October 2015-December 2019. Baseline characteristics were abstracted and the van Walraven weighted Elixhauser comorbidity index (ECI) score calculated for each patient. Outcome variables included in-hospital mortality and complications including cardiopulmonary, gastrointestinal, infectious, genitourinary, neurocognitive, and procedural complications. Multivariable regression evaluated the association between clinical variables and in-hospital mortality.

RESULTS: 155 patients were identified (median [IQR] age: 60 [55-70] years) with 110 being male (71%) and median ECI score of 21 (IQR: 10-25). 60 patients (39%) had an upper GIB, 30 (20%) lower GIB, and 65 (43%) an unspecified location of GIB. In-hospital mortality was 29%. Of 135 patients with known procedure timing, 30 patients (22.2%) underwent REBOA upon presentation to the hospital with no mortalities and no procedure-related complications. The other 105 patients (77.8%) underwent REBOA while inpatient and had higher ECI score (21[18-26] versus 7[4-13], p=0.003) with in-hospital mortality rate of 33% (p=0.09). In-hospital mortality was associated with increasing ECI score (OR: 1.71, 95% CI: 1.11-2.63, p=0.018) and more days to REBOA placement (OR: 1.65, 95% CI: 1.13-2.42, p=0.013).

CONCLUSIONS: REBOA has been used for GIB at various periods during a hospital stay. REBOA may be an effective adjunct in patients presenting emergently with hemorrhagic shock from GIB.

Podium Presentations

Session 11

Moderator: Christian de Virgilio, MD

Session 11 | Podium 29 (10:00AM - 10:15AM)

Gender Equity in Global Surgery: A Comparison of East, Central, and Southern African Nations

Huda Muhammad, MD - Stanford University, Abebe Bekele, MD - University of Global Health Equity, Ganesh Rajasekar, MPH - Stanford University, Amber Trickey, MS, CPH, PhD - Stanford University, Sherry Wren, MD - Stanford University

Presenter: Huda Muhammad **Discussant:** Ryan Hayton **Closer:** Sherry M. Wren

OBJECTIVE: Our purpose is to assess gender equity for non-gendered procedures in 14 low/middle income countries (LMIC) within the College of Surgeons of East, Central, and Southern Africa (COSECSA) and determine whether countries with more gender equity have higher SDG indices for health coverage and reproductive decision-making.

BACKGROUND: Gender equity and health are targeted metrics within the 2015 UN sustainable development goals (SDG). Gender inequity in surgical procedures has been reported worldwide, including LMIC.

METHODS: COSECSA resident case log data (January 2016-December 2019) of Skin/soft Tissue Surgery (STS, n=23,676) and Abdominal Surgery (AS, n=26,304) are analyzed as subsets. Hernia, breast, and reproductive-organ procedures were excluded. Male-female ratios are reported by country. Logistic regressions were used to calculate the odds of patients being male by country (reference:Namibia). Spearman rank correlations were calculated between male-female ratios and 2 SDG indices representing health coverage and reproductive decision-making.

RESULTS: Male-female ratios among patients receiving STS ranged from 0.76 (Botswana) to 2.23 (Niger), and for AS ranged from 0.88 (Botswana) to 2.53 (Niger) (Table 1). In most countries, the odds of being male was significantly higher than the reference for both STS and AS. There were significant correlations between lower male-female ratios among STS procedures with SDGs: higher health index (rho=-0.63, p=0.0154) and gender equity (rho=-0.63, p=0.0205).

CONCLUSIONS: The range of male-female ratios is striking amongst COSECSA nations and cannot be explained by differences in disease incidence. The correlation of male-to-female ratios and SDG indices suggests that sociopolitical and economic policies may contribute to inequitable distribution of surgical resources.

Session 11 | Podium 30 (10:15AM - 10:30AM)

Promoting increased academic productivity of academic general surgery subspecialists

Michelle Earley, MS - Stanford University, Anisha Abreo, MPH - Stanford University, Dan Azagury, MD - Stanford University, George Poultsides, MD - Stanford University, Andrew Shelton, MD - Stanford University, David Spain, MD - Stanford University, Sherry Wren, MD - Stanford University, Mary Hawn, MD - Stanford University

Presenter: Michelle Early **Discussant:** Bryan Clary **Closer:** Electron Kebebew*

OBJECTIVE: To determine the effect of a comprehensive incentive plan incorporating academic metrics on academic productivity.

BACKGROUND: Faculty incentivization primarily based on clinical productivity can present challenges for promoting academic activity. Thus, some centers have implemented academic incentive programs to promote academic activities. However, little is known about the impact of such incentive programs and what factors, if any, are associated academic productivity.

METHODS: We analyzed clinical and academic productivity over four years (2018–2021) among 52 general surgery subspecialty faculty post-implementation of a five-metric [individual faculty clinical profit (clinical productivity), citizenship, research grant submission/funding, publications, and education/teaching activities (last four metrics = academic productivity)] year-end incentive program. Univariate and multivariable mixed effects generalized linear models were used for data analyses.

RESULTS: Academic productivity increased annually by 17% (<0.0001). There was a significant increase in research grant submissions and funding (p=0.0014), publications (p=0.0014), and education/teaching activities (p < 0.0001). There was significant variability in academic productivity by faculty line (p<0.0001) and faculty rank (p=0.0150). Clinical productivity increased 24% over the four years. There was no association between clinical productivity and faculty rank, subspecialty area, sex, faculty line and academic productivity.

CONCLUSIONS: An incentive program that includes academic metrics promotes increased academic productivity without impacting clinical productivity. Future studies are needed to understand the factors associated with variations in academic productivity.

**Paper Sponsor Electron Kebebew*

Session 11 | Podium 31 (10:30AM - 10:45AM)

Association of Residency Application Data with Subsequent General Surgery Residency Graduate Performance: A Multi-Institutional Study

Amanda Purdy, MD - Harbor-UCLA Medical Center, Brian Smith, MD - University of California, Irvine, Farin Amersi, MD - Cedars-Sinai Medical Center, Kristine Calhoun, MD - University of Washington Medical Center, Juliana Tolles, MD, MHS - Harbor-UCLA Medical Center, Christine Dauphine, MD - Harbor-UCLA Medical Center, Mayank Roy, MD - Cleveland Clinic Foundation, Keaton Joppru, MD - Gunderson Medical Foundation, Amy Han, MD - Cleveland Clinic Foundation, Angela Neville, MD - Harbor-UCLA Medical Center, Karen Dickinson, MD - University of Arkansas for Medical Sciences, Edgardo Salcedo, MD - University of California, Davis, School of Medicine, Edgar Shields Frey, MD - Brookwood Baptist Medical Center, V Prasad Poola, MD - Southern Illinois School of Medicine, Ross Mudgway, MD - Loma Linda University Medical Center, Ross Fleischman, MD - Harbor-UCLA Medical Center, Roger Lewis, MD, PhD - Harbor-UCLA Medical Center, Christian de Virgilio, MD - Harbor-UCLA Medical Center

Presenter: Amanda Purdy **Discussant:** Wen Shen **Closer:** Farin Amersi

OBJECTIVE: To determine if objective Electronic Residency Application Service (ERAS) variables are associated with subsequent residency graduate performance as rated by surgical educators.

BACKGROUND: When selecting prospective surgical residents, programs emphasize objective ERAS application data. However, it is unclear whether ERAS data are associated with future resident performance, or any of the three most important qualities (surgical judgment, leadership, medical knowledge) we previously identified as being predictive of outstanding graduate performance.

METHODS: Faculty from twelve surgical residencies rated 2017-2020 graduates on four outcomes: overall performance, surgical judgment, leadership, and medical knowledge. Graduates' ERAS data were collected, including medical school type, USMLE scores, honors society memberships, extracurriculars, clerkship honors, and class rank. Data were analyzed using Spearman's rank-order correlation. Least-absolute-shrinkage-and-selection-operator (LASSO) regression was performed to select a model predictive of each outcome from pre-residency variables.

RESULTS: 258 graduates were evaluated. Regarding overall residency graduate performance rating, there was a weak association with USMLE2($r=0.23, p<0.01$); clerkship honors in: family medicine($r=0.17, p=0.02$), obstetrics/gynecology($r=0.17, p=0.01$), pediatrics ($r=0.15, p=0.02$), surgery($r=0.14, p=0.03$); proportion of honors($r=0.2, p<0.01$); and class rank

(r=0.18,p=0.03)(Table). None of the pre-residency variables were selected for a predictive model via LASSO regression for any of the four outcomes measured.

CONCLUSIONS: Correlation is weak between ERAS data and subsequent surgery resident performance, as determined by surgical educators. On LASSO regression, no ERAS variables were predictive of graduate performance. These findings question the value of objective ERAS data in the resident selection process and highlight the importance of cultivating outstanding surgeons throughout residency training rather than selecting applicants with certain pre-residency qualifications.

Session 11 | Podium 32 (10:45 AM - 11:00 AM)

Physiologic Recovery and Subjective Stress of Performing Operations: The Observational Whoop Study

Kenneth Perrone, MD - Stanford University, Michelle Earley, MS - Stanford University, Graeme Rosenberg, MD - Stanford University, Carla Pugh, MD PhD - Stanford University, Cindy Kin, MD, MS - Stanford University

Presenter: Kenneth Perrone **Discussant:** Kristine Calhoun **Closer:** Cindy Kin

OBJECTIVE: To determine whether biometric indicators of physical recovery among surgeons are associated with perceived workload of operations.

BACKGROUND: Surgeons must perform at a high level, but surgeons' lifestyle often leaves little time for physical recovery. Heart rate variability (HRV) is a reliable indicator of recovery and readiness to perform in sports and high-stakes fields.

METHODS: Participants wore a biometric sensor (Whoop, Inc) for the six-month study period and completed the NASA Task Load Index (TLX) to measure subjective workload during operations. Associations between HRV-based recovery scores calculated by the Whoop algorithm and TLX were evaluated using mixed effects models.

RESULTS: Recovery scores were lower among more senior trainees compared to more junior trainees (p=0.029), as were recovery scores among more senior attendings compared to early career attendings (p=0.015). 25 attendings and 34 trainees logged a total of 624 cases (median (IQR): 6 (2, 15) cases per participant) with TLX scores. Senior trainees were more likely to note mental and physical stress during operations than junior trainees. Women trainees had higher overall stress during operations than men trainees. Mixed effects regression models did not reveal an association between TLX scores and recovery scores for a composite score and for each component of the TLX.

CONCLUSIONS: This study did not demonstrate a correlation between an HRV based recovery score and subjective task performance. Aged-based differences in recovery as well as age- and gender-based differences in subjective stress and perceived operative performance should be explored further to identify targets for improving recovery and performance.


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Edward Phillips	2019	Carlsbad, CA	2020
Robert Sawin	2018	Tucson, AZ	2019
Quan-Yang Duh	2017	Napa, CA	2018
Jonathan R. Hiatt	2016	Indian Wells, CA	2017
Karen Deveney	2015	Kohala Coast, HI	2016
William Schecter	2014	Monterey, CA	2015
Fred Weaver	2013	Dana Point, CA	2014
Mika Sinanan	2012	Kauai, HI	2013
James Holcroft	2011	Napa, CA	2012
James Atkinson	2010	Scottsdale, AZ	2011
James Peck	2009	Maui, HI	2010
Orlo Clark	2008	San Francisco, CA	2009
Bruce Stabile	2007	Coronado, CA	2008
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Cornelius Olcott IV	2005	San Francisco, CA	2006
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Norman M. Christensen	1993	Sacramento, CA	1994
Louis L. Smith	1992	Scottsdale, AZ	1993
Clare G. Peterson	1991	Kauai, HI	1992
Allen H. Johnson	1990	Pebble Beach, CA	1991
Eric W. Fonkalsrud	1989	Laguna Nigel, CA	1990
George J. Thomas	1988	Vancouver, BC	1989
John K. Stevenson	1988	Vancouver, BC	1989
F. William Blaisdell	1987	San Francisco, CA	1988

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E. Eric Larson	1953	Santa Barbara, CA	1954
Alexander B. Hepler	1952	Hot Springs, BC	1953
Alson R. Kilgore	1951	Del Monte, CA	1952
William K. Kroger	1950	Coronado, CA	1951
Eugene W. Rockey	1949	Gearhart, OR	1950
Howard C. Naffziger	1948	San Francisco, CA	1949
Leroy B. Sherry	1947	Los Angeles, CA	1948

Homer D. Dudley	1946	Victoria, BC	1947
Philip K. Gilman	1945	San Francisco, CA	1946
Philip K. Gilman	1944	No meeting due to WWII	1945
Philiip K. Gilman	1943	No meeting due to WWII	1944
Philip K. Gilman	1942	No meeting due to WWII	1943
Philiip K. Gilman	1941	No meeting due to WWII	1942
Charles T. Sturgeon	1940	Los Angeles, CA	1941
Richard B. Dillehunt	1939	Pointland, OR	1940
Sumner Everginham	1938	Del Monte, CA	1939
Wayland A. Morrison	1937	Los Angeles, CA	1938
Otis F. Lamson	1936	Vancouver, BC	1937
Harold Brunn	1935	Del Monte, CA	1936
E. C. Moore	1934	Santa Barbara, CA	1935
Ernst A. Sommer	1933	Gearhart, OR	1934
Emmet Rixford	1932	Del Monte, CA	1933
Rea Smith	1931	Santa Barbara, CA	1932
J. Tate Mason	1930	Victoria, BC	1931
Wallace I. Terry	1929	Del Monte, CA	1930
A. Stewart Lobinger	1928	No info available	1929
Robert C. Coffey	1927	No info available	1928
Stanley Stillman	1926	No info available	1927
Charles D. Lockwood	1925	Del Monte, CA	1926
Founder's Meeting	1925	San Francisco, CA	1925

PCSA New Members

Class of 2023

Claire Louise Buchanan, MD
Caucus: Washington/British Columbia/Alaska
Current Position: Attending Breast Surgeon at Swedish Medical Center
Specialty: Breast Cancer
Sponsors: Marc D Horton, Sara Javid, Kristine Calhoun

Sepideh Gholami, MD
Caucus: Northern California
Current Position: Assistant Professor of Surgery at UC Davis Medical Center
Specialty: Surgical Oncology
Sponsors: Shinjiro Hirose, Joseph Galante, Michael Campbell

Brooke Heidi Gurland, MD
Caucus: Northern California
Current Position: Professor of Surgery at Stanford University School of Medicine
Specialty: Colon and Rectal
Sponsors: Sherry Wren, Arden Morris, Cindy Kin

Ryan Anthony Hayton, MD
Caucus: Southern California
Current Position: Associate Professor, PD Global Surgery Fellowship, Associate Director Center for Global Surgery at Loma Linda University Health
Specialty: General Surgery
Sponsors: Sharon Lum, Naveenraj Solomon, Ahmed Abou-Zamzam

Lorraine Kelley-Quon, MD
Caucus: Southern California
Current Position: Assistant Professor at Children's Hospital Los Angeles/USC
Specialty: Pediatric Surgery
Sponsors: Romeo Ignacio, Steven Lee, Shant Shekherdimian

Anjali Kumar, MD
Caucus: Washington/British Columbia/Alaska
Current Position: Director of Clinical Education in Surgery at Elson S. Floyd College of Medicine of Washington State University
Specialty: Colorectal Surgery

Jukes P Namm, MD
Caucus: Southern California
Current Position: Associate Professor of Surgery at Loma Linda University Health
Specialty: Surgical Oncology
Sponsors: Sharon Lum, Naveen Solomon, Ahmed Abou-Zamzam

Laila Rashidi, MD
Caucus: Washington/British Columbia/Alaska
Current Position: Colon and Rectal Surgeon at Multicare Health System
Specialty: Colorectal Surgery
Sponsors: Stephanie Acierno, Randall Holland, Amir Bastawrous

Kulmeet Kaur Sandhu, MD
Caucus: Southern California
Current Position: Associate Professor of Surgery at Cedars Sinai Medical Center
Specialty: MIS/Bariatrics
Sponsors: Miguel Burch, Edward Phillips, Kenji Inaba

Carolyn Dacey Seib, MD, MAS
Caucus: Northern California
Current Position: Assistant Professor at Stanford University
Specialty: Endocrine Surgery
Sponsors: Wen Shen, Sherry Wren, Dan Eisenberg

Julie Ann Sosa, MD
Caucus: Northern California
Current Position: Leon Goldman, MD Distinguished Professor of Surgery and Chair, Department of Surgery at University of California San Francisco (UCSF)
Specialty: Endocrine surgery
Sponsors: Quan Duh, Wen Shen, Mary Hawn

Patrick Joseph Worth, MD
Caucus: Oregon/Hawaii
Current Position: Assistant Professor of Surgery at Oregon Health & Science University
Specialty: Hepatobiliary and Pancreatic Surgery
Sponsors: Liana Tsikitis, Brett Sheppard, Susan Orloff

Wing Sze Esther Yung, MD
Caucus: Southern California
Current Position: Assistant Professor of Surgery at Loma Linda University Health
Specialty: General Surgery, Minimally Invasive Surgery
Sponsors: Sharon Lum, Ahmed Abou-Zamzam, Naveenraj Solomon

In Memoriam:

Orlo Clark, MD

Edward Dainko, MD

Charles Frey, MD

Philip Parshley, MD

Arthur Stanten, MD

Lawrence Way, MD

Orlo Clark (1941-2022)

We are deeply saddened to announce the passing of Dr. Orlo H. Clark. Dr. Clark was a proud member of the Pacific Coast Surgical Association and a mentor, friend, and inspiration to countless surgeons in our organization and worldwide. He was an internationally renowned endocrine surgeon, with scientific and clinical contributions in thyroid cancer, primary and secondary hyperparathyroidism, and adrenal and endocrine pancreas disease, and he was a driving force in establishing endocrine surgery as a significant subspecialty of general surgery. Dr. Clark spent his entire career at the University of California, San Francisco. He created research and clinical fellowships in endocrine surgery at UCSF, among the very first of their kind anywhere in the world, and over the past several decades countless endocrine surgeons trained and performed research under his tutelage. Dr. Clark loved the Pacific Coast Surgical Association and always stated that it was his favorite meeting to attend each year. In 2009 he served as President of the PCSA and hosted the meeting that year in his hometown of San Francisco. In addition to his leadership of the PCSA, Orlo also served as President of the American Association of Endocrine Surgeons, International Association of Endocrine Surgeons, and American Thyroid Association. Orlo was proudest, however, of the fellows whom he trained and mentored, and he cherished the many friends that he and his wife Carol made around the world during his illustrious career.

Orlo Clark was a true giant in our profession, and a guiding light for so many of us. He will be dearly missed.

A brief biography of Dr. Clark from his 2008 Festschrift can be found online here: https://endocrinesurgery.ucsf.edu/news--events/ucsf-news/92708/Remembering-Dr.-Orlo-H.-Clark.

A video tribute to Dr. Clark when he was honored as one of the American College of Surgeons' Icons in Surgery in 2016 can be found online here: https://www.youtube.com/watch?v=oqqUMI51hjM.

Edward Dainko, Jr (1933-2020)

Dr. Edward A. Dainko Jr., age 87, loving husband to Ellie, father to nine children and grandfather to 25 children, passed away peacefully surrounded by family on December 21, 2020, at home in Dana Point, CA. Ed was born on February 8, 1933, in Joliet, IL, the first son of Dr. Edward A. Dainko, Sr. and Marie Dainko (nee Hucek).

Ed grew up in Joliet, IL. An industrious lad, he had many hobbies as a youth. He enjoyed all sports but was especially good at baseball, basketball, and boxing. He raised homing pigeons and enjoyed hunting with his father and uncles. He graduated from Joliet Catholic High. Inspired by his physician uncle Alfred, Ed enrolled at the University of Illinois pre-med program offered on the campus of Loyola University in Chicago. Ed graduated from the University of Illinois medical school in 1957 and soon accepted an internship at San Bernardino County Charity Hospital.

At a party during his medical school days Ed fell in love at first sight with Mary Eleanor "Ellie" Hallagan. On the day he met her, he remarked to his friends that he was going to marry her. And they married shortly after his graduation. Together, they raised nine children. They were devoted to each other and joyfully celebrated their 60th wedding anniversary three years ago. Ed and Ellie traveled often, a shared passion between them. They delighted in trips that included their children and grandchildren, including 5 international cruises. The two made endearing friendships with people all over. They loved to socialize and entertain. Bridge night and holiday parties at home were regular affairs. Ed also was an avid Notre Dame fan and attended some of Notre Dame's greatest football games.

After two years of naval service aboard the USS Henrico. Ed served a residency at Presbyterian-St Luke's Hospital in Chicago. Following his residency, Ed accepted a fellowship to study surgery at the London Hospital Medical College in England.

Ed's passion was surgery and what a surgeon he became. Ed eventually became chief of surgery at the San Bernardino County Medical Center and later St. Bernardine's Medical Center. One of his proudest achievements was the success of the transplant program in San Bernardino. He pioneered transplant surgery in 1970, establishing the Renal Transplant Program at San Bernardino County Medical Center and becoming the first surgeon to perform a kidney transplant in the county that year.

That same year, he performed a kidney transplant on a 23-year-old college student. The patient went on to live another 47 years with the kidney. He is believed to be the second longest survivor of a non-relative cadaver kidney transplant in medical history.

In 1983, the program, now at St Bernardine's Medical Center, was recognized as having the highest three-year survival/success rate of all 23 transplant programs in California and third highest in the nation.

Ed felt that in addition to being the finest surgeon he could be, he was called to share his knowledge and experience with fellow doctors. His many professional appointments include Clinical Instructor of Surgery at the University of Illinois, Lecture of Surgery at London Hospital, and Clinical Associate Professor of Surgery at UCLA. He was passionate about teaching. Many of his students became leaders in the field of surgery including Ron Busuttil MD, who established the largest liver transplant program in the country at UCLA. Ed also served as Chief of Staff at San Bernardino Community Hospital.

He was extremely active in medical societies, including serving as a past president of the So Calif chapter of the American College of Surgeon, the Tri-County Surgical Society, the California Society of Transplant Surgeons (charter member), the Western Assoc. of Transplant Surgeons, the So Calif Transplant Society, the former Chair of the Scientific Advisory Comm on General Surgery for the California Medical Assn. He is a member of the Western College of Surgeons, the Pacific Coast Surgical Assn, and American Society of Transplant Surgeons. He has authored more than 30 papers and in 1963 received the Fremont A Chandler Award for his original research on the pancreas.

But Ed wasn't always so serious. If you want proof, simply YouTube "Dainko Family Feud".

While Ed's family and profession were of paramount importance, he valued his faith in God above all. He believed he was simply a vessel for doing the Lord's work. He began each day reciting a prayer for God's help in guiding his hands as he operated. He attended Mass daily. Ed was a member of Our Lady of the Assumption Catholic Church in San Bernardino and following his retirement in 2007, moved to Dana Point, CA to become a member of St. Edward the Confessor Catholic Church.

He was a fourth-degree member of the Knights of Columbus, Fr. Louis F. Knight Council 12451 and Santiago de Compostela Assembly 2305. He also was a devoted member of the Serra Club of the San Bernardino and Orange diocese, which fostered vocations to the priesthood and religious life. He served as past president of the Serra Club of South Orange County in 2014.

Ed is preceded in death by his beloved Ellie and is looking to celebrate Christmas with her for the first time in three years. He is also preceded in death by his three sisters, Julia, Marilyn, and Adrienne and one brother, Rainer. He is survived by their nine children, Edward III (Terri), James, Kathleen (James) Young, Robert, Thomas, Michael (Carla), Patricia (Douglas) Green, John Paul (Suzanne) and Matthew (Tawnee); his sisters-in-law, Terri Dainko, Sharon O'Keefe and Kathleen Wilson, brothers-in-law, Valcour Miller and Bill Wilson; twenty-five grandchildren Edward IV, Andrew, Michael, Eleanor, Beth, Caroline, James, Joseph, Thomas, Alexandria, Kyle, Kaylyn, Leah, William, Mary Clare, Gabriel, Patrick, Julia, Blaise, David, Mia, Sean, Tyler, Cali, Olivia, whom he called "my little girl"; thirty-four nieces and nephews; and other relatives and close friends too numerous to count.

Charles Frey (1929-2022)

Charles Frederick Frey, truly a Renaissance man, said goodbye to his family on February 7, 2022. Whether hiking mountains in Yosemite, harvesting copious crops of tomatoes and corn from his garden, reading voraciously, or performing life-saving pancreatic surgery, Charlie never failed to inspire those around him with his passion for life and work.

Beloved husband, father, friend, surgeon and mentor, he died peacefully at age 92 surrounded by family at his home.

Born in New York City on November 15, 1929 his parents Charles N. Frey and Julia L. Leary raised Charlie and his two sisters Martha Anne and Florence in Scarsdale, New York. An athletic, sharp, curious young man, he showed great promise early on for the remarkable career he would have as an internationally renowned pancreatic surgeon and investigator. Deeply impacted by a near-death experience from viral pneumonia when he was 15 years old, Charlie had a desire to do something with his life that was both useful and needed. He graduated from Amherst College in 1951 and attended Cornell University medical school to obtain an M.D. degree in 1955.

When, as a third-year medical student, a patient presented with hemorrhagic pancreatitis and subsequently died as there was no known effective treatment for this mysterious and deadly disease, Charlie found his calling and lifelong challenge. In his words: "Studying and learning about pancreatitis was like what Robert Frost said about taking the path less traveled and that suited my own needs and temperament." He finished general surgery training at the New York Hospital in 1963 during which time he completed two years in the United States Air Force as chief of surgery at Homestead Air Force Base in Florida.

In early 1957 Charlie took Jane Tower, the sister of his best friend John Edmonds' wife Anne, on their first date to see Billy Graham speak in Madison Square Garden in New York City. Three months later, Jane and Charlie were engaged and married on July 20, 1957. They have five children: Jane - California; Susan -Minnesota; Charlie - Texas; Bob (Mei) -California; and Nancy (Jose) -Spain; and nine grandchildren - Audrey (Reid), Cathy, Zach, Nick, Jacob, Derek, Eric, Marina and Sam; and great granddaughter Valerie.

After his internship year, a friend invited Charlie to visit Yosemite National Park in California for the first time. Having planted hundreds of trees on his family's

Michigan farm, forestry had been a potential career option and experiencing Yosemite's magnificent, inspiring landscapes initiated a love affair with hiking (including treks summiting Mt Rainier and Mt Fuji) that would endure for the rest of Charlie's life; a gift and passion for the outdoors that he passed on to his five children by taking them there on annual trips to hike, identify and learn the magic of the trees and rock formations, and to never forget to look up at the stars.

After 12 years at the University of Michigan in the Department of Surgery, Charlie's career led him and his family to California where he eventually became the Vice Chair of the Department of Surgery at the University of California, Davis Medical Center. During his very active career in the areas of trauma, EMS and pancreatic diseases, and developed what was named the Frey Procedure for chronic pancreatitis. He published over 200 articles and book chapters and presented his work at over 300 meetings worldwide. He gave hope where there was none and greatly improved patient confidence in pancreatic surgery. He was a founding member of the Pancreas Club and Chairman of it from 1975 to 1995. He retired in March 1997.

At heart a country boy, in 1999 Jane and Charlie moved to and built a house in rural Rescue, California where he was able to devote his attention to developing the land, tending his fruit orchard and vegetable garden and hiking the hills. An inveterate reader, he was an active member of the Serrano Men's Book Club.

Philip Parshley (1932-2022)

Philip Parshley, age 90, passed away on July 16th, 2022. In 1973, Phil co-founded the Oregon Burn Center and quickly become a national leader in burn care. A humble man, he emphasized the team nature of medicine and treated his colleagues like family. “I was so proud to be on his burn team. He set the bar high for all of us,” a former nurse recalled. She added, “he was an easy man to love.” Phil regularly performed miracles, and his OR team recalls him as, “a role model for us all.” He built close relationships with firefighters around Oregon, providing emergency care training at fire stations and teaching burn care to doctors from several countries.

Phil was born in Hartford, Connecticut. Shortly after entering college, he lost his mother to gastric cancer and became determined to become a surgeon. He was working as a sailing instructor when he met his beloved wife, Barbara (Bobbie) Vaughan. They married after he graduated from Dartmouth College in 1953. He finished Harvard Medical School in 1956 on an accelerated medical track. Phil completed his residency at the Boston City Hospital, followed by a fellowship in Surgery at the Lahey Medical Clinic. His passion for burn care was solidified during his service in the U.S. Air Force.

I (NE) remember Phil as an excellent surgeon and compassionate physician. He had a long productive career at Emanuel Medical Center and the Legacy Oregon Burn Center. He is remembered as a very hard-working surgeon who took time to care for his patients and as an excellent teacher who was always kind and gentle. He also served in many other capacities, including Medical Staff President, for Legacy Hospitals.

Phil welcomed me (JP) to Portland in 1981. We served on the State Trauma Advisory Board (STAB) alongside Dr. Don Trunkey from OHSU. I couldn’t help but be intimidated by these two giants of surgery. I had been a medical student on the Trauma Service at San Francisco General Hospital, where Don was my resident and Dr. Bill Blaisdell our attending.

After his retirement, The Parshley Chair in Burn Medicine was established to permanently fund a Medical Director position at the Legacy Oregon Burn Center. This endowment allows the Parshley Chairman to devote significant time to leadership and research that will further the art and practice of burn care for all patients in Oregon and surrounding States.

Phil went on to serve for over a decade as Medical Director of the Oregon Medical Board, keeping his kills sharp by teaching his grandchildren to suture on the Thanksgiving turkey. His leadership, and detailed-oriented evaluation of physicians for competence was authentic. When he asked me (JP) to replace him in 2010, I felt unworthy. But Phil would not take “no” for an answer. He was my mentor once again.

Phil taught his four children - Marianne, Jeff, Philip, and Lisa - by example, combining an impish sense of humor with a quiet compassion. He also taught them to care passionately about their work. Marianne became a respected internal medicine physician in Portland and remembers when dinner was interrupted by calls from the hospital. “We could tell if it was bad news because he put his head in his hands - he felt his patients’ pain.” Jeff is the chairman of SRK Consulting, a Geology and Mining Specialty, in Reno, Nevada. Philip is an independent computer programmer in Vancouver, Washington. Lisa is a veterinary oncologist, and City Council member in Olympia, Washington.

He had a lifelong passion for sailing and skiing. Phil volunteered at Mount Hood Meadows as a doctor-on-call for Ski Patrol and joined the Vancouver Lake Sailing Club. He would later serve as Commodore - racing with his children and grandchildren in North American Lightning competitions.

Phil will be long remembered for his intrepid intelligence and compassion, and as loving and gentle father. His presence will be missed from among our Association.

Drs. Niknam Eshraghi & James Peck

Arthur Stanten (1932-2022)

On Sunday March 20th, surrounded by family, Arthur Stanten passed away at the age of 89 at his long-time home in Oakland, CA.

Art was born in Brooklyn, NY to parents Albert and Bertha. He was raised amongst his extended family and became an avid Brooklyn Dodger fan at a young age. Art grew up in a musical household and became an accomplished trumpet player as a youth. In his teens, the family moved west to Los Angeles, where he befriended a group of boys, who would become his life-long friends. He later enrolled at UCLA as an undergrad. While there, he met a Stanford co-ed named Meredith, who was visiting for the Rose Bowl. They eventually married and would have celebrated 68 years of marriage in June 2022.

Art went to medical school at UCSF and decided he would become a general surgeon. He did his internship and residency at Highland Hospital in Oakland, interrupted by a 2-year stint in the Air Force, where he served as a Captain and lone surgeon at the base hospital in Roswell, New Mexico.

Art moved back to Oakland in 1961 to complete his residency and to enter private practice in general surgery. He had a long and distinguished career in medicine, serving as Department Chair of Surgery, President of the East Bay Surgical Society and eventually as President of the San Francisco Surgical Society. He was the consummate physician, pouring his heart and soul into what he did every single day. He taught and inspired many young, hopeful doctors to follow in his footsteps. Many came to him for advice and knowledge which he humbly imparted to all who asked. Medicine was so very important to him, and he took great care and pride in his role as a surgeon. He retired in 2006, leaving thousands of patients indebted to him for his wonderful care. Art was a most beloved doctor, with a bedside manner for the ages. Art's two main passions, besides medicine, were his family and golf which he combined often during annual trips to Hawaii over nearly 50 years at Mauna Kea Beach Hotel. He loved body surfing in the ocean and cooling off with a Mai Tai. He particularly enjoyed spending time on these trips with his extended family and grandchildren. Art was also a longtime member of both Silverado Country Club and Claremont Country Club where he made many long-lasting friendships.

Art was the loving patriarch the entire family looked up to, with always a story to tell, or knowledge to impart. He is survived by his wife Meredith, sons Steven (Sally) and Russell (Patty), daughter Linda (Matt), grandchildren Tamara Rodriguez (Daniel),

Giuliett App (Chris), Justin Stanten, Kyle Stanten, Ryan Stanten, Sam Beresford, Bridget Beresford, Jennifer Stanten, Haley Stanten, and great-grandchildren Addison and Bennett Rodriguez.

He will be remembered by all as a loving, caring, humorous and wise individual, who left his positive mark on all who knew him and so many who loved him deeply. He will be missed. A private family service was held. The family would like to express their gratitude for the heartfelt messages of love and support.

Lawrence Way, MD, FACS (1953-2022)

Dr. Lawrence W. Way, MD an internationally known and respected surgeon and professor died peacefully in his Larkspur, CA home surrounded by his family of heart failure and Parkinson's Disease, he was 89.

Lawrence Wellesley Way was born in St. Louis, Missouri to Raymond Way and Elizabeth Weaver in the middle of the Great Depression. His father had difficulty finding work as a geologist, so the family moved around the country eventually settling in Pelham, New York where Larry attended high school. He graduated from Cornell University, class of 1955 and completed medical school at the University of Buffalo, class of 1959. His interest in surgery began in medical school when he found the complex dissections in his anatomy class fascinating. Wanting to escape the harsh Buffalo winters, Larry set off to the West Coast to begin an internship at the University of California, San Francisco. Following his internship year, Larry fulfilled his ROTC commitment to the U.S. Army by serving as a medical officer in Korea and the Presidio of San Francisco. While stationed abroad, a telegram arrived from the Department of Surgery Chairman Dr. Leon Goldman inviting him to return to San Francisco and complete his surgical training. It's there that he met his mentor, Dr. J. Englebert Dunphy, an exceptional person and exemplary surgeon that formed the basis for whom Larry wanted to model his career. They formed a close relationship, not only professionally but personally as Larry often looked at Dr. Dunphy as a father.

Dr. Dunphy invited Larry to join the UCSF faculty which launched his career as an internationally recognized surgeon and a pioneer in the field of minimally invasive surgery. He served in a variety of leadership roles within the Department of Surgery as Chief of Surgery at the SF VA Medical Center at Fort Miley; Chief of the Foregut Surgery Service; and Director of the Videoscopic Training Programs. He was instrumental in developing applications for laparoscopic surgery to the esophagus, stomach, and pancreas. Larry was active on a national and international level in surgical organizations such as the American College of Surgeons and the International Society of Surgery. One of his greatest accomplishments as VA Chief of Surgery was the recruitment of exceptional surgeons which propelled the quality of surgical care and research at Fort Miley to its highest level within the Veteran's health care system. It's a legacy he was always proud of.

In 1975, Larry was appointed Chair of the Medical School Curriculum Committee and led the way for two complete curriculum revisions, always applying current scientific research and leading techniques to the curriculum. The first online database for researching medical literature, called Medline, was developed during this time and Larry recognized the importance of this new technology for real time data access for physicians. As Chair of the Library Committee, he was instrumental in getting the online database accessible for the entire faculty to use, not just reference librarians.

Early in his career, Dr. Dunphy asked Larry to help edit a leading surgical textbook called “Current Surgical Diagnosis & Treatment” which became known as “The Red Book” - a key textbook required in most U.S. medical schools and translated into over a dozen languages. It was succinct, up-to-date, inexpensive, and had the most important material supported by citation in the scientific literature. Larry authored over 230 peer reviewed journal articles and contributed to over 60 textbook chapters throughout his lengthy career.

After the advent of laparoscopic cholecystectomy, Larry began to see a new, unusual pattern of surgical errors developing which made him want to better understand how these errors were happening and how human’s make errors. This led him to delve into learning about human error from a variety of disciplines such as cognitive and vision sciences; the science of decision- making, team perceptions and interactions; human resiliency engineering; the visual-spatial sciences and the field of heuristics. He wanted to know how all these other scientific disciplines could influence a better understanding of surgical errors from an entirely new, and unique perspective. Larry applied this integrated knowledge to better understand common bile duct injuries and published several original papers of this work.

Larry’s unremitting focus on teaching surgeons is what made his mentorship elite and the education of the surgical house staff was always his top priority. His interests ranged from the effects of fatigue and safety in the OR, to teaching laparoscopic skills to community surgeons throughout the country. He was also an early pioneer in training mid-career surgeons in laparoscopic techniques and had a part in helping create hundreds of surgeons that have contributed to health care institutions across the world. Larry was often the last hope for patients with complex surgical needs, and his clinics were models on how to be honest yet understanding to patients and their families. He was trusted and respected by his patients, students, colleagues, and friends – a “surgeon’s surgeon”.

Despite his demanding professional workload, Larry’s hobbies were extensive. He enjoyed wildlife and landscape photography and every aspect of creating a photograph from scouting out a location, to finishing the image in Photoshop. His camera was rarely out of reach. Many of his friends still proudly display some of Larry’s photos on the walls of their homes or offices.

Besides photography, he enjoyed growing orchids, bromeliads, and dahlias in his backyard greenhouse, and all types of succulents in his Larkspur Garden. Larry took great interest in geology and learning about the natural landscapes around him. He would frequently beat much younger surgical fellows in vigorous squash games between operations. Larry and his wife, Catherine, hosted frequent dinner parties for visiting professors, always leading to robust conversations and long-lasting friendships.

He had a life-time love of etymology (the study of word origins) and had an extensive collection of books on the history of words in the English language. At home, he often shared a “word of the day” for his daughters for a fun way to expand their vocabulary. He was also a stickler for medical terminology, grammar, and the need for “plain speaking” in medicine. Generations of residents used his two page “English Usage” guide for correcting their case presentations.

Never a religious person, Larry followed the teachings of the great philosophers and had a particular interest in the works of the Stoics. His collection of the writings of Seneca, Marcus Aurelius, and Epictetus are filled with yellow highlighted passages that resonated with his views on the art of living and the shortness of life.

The quality of relationships that he created made his professional and personal lives exceptional. He was a warm, loving, and supportive father who taught by example that hard work is its own reward, and that honesty and integrity are keys to a valuable life. Larry met his wife Catherine, a nurse at UCSF, and they married in 1991. A year later they had their daughter Elizabeth and then their daughter Caroline. The girls joined a blended family with Larry’s sons, Stewart and Spencer.

Larry, Catherine, and their children traveled extensively throughout the world, always seeking a new, off-the beaten path adventure frequently camping, rafting, and hiking trips. Just of few of their travels took them to the walrus colonies at the Bering Strait in Alaska; wildlife safaris in Kenya, Tanzania, and Botswana; the pyramids of Egypt; hiking the Inca trail in Peru; the temples of Guatemala; and to the Emperor penguins in Antarctica.

Larry is survived by his wife, Catherine Way, and their children, Elizabeth Way and Caroline Way, her husband Jacob Way. His sons from his first marriage, Stewart Way, Spencer Way and his wife Kristen Way, his two granddaughters Brooklyn and Kennedy Way.


PACIFIC COAST SURGICAL ASSOCIATION
1925

PCSA Constitution

ARTICLE I

Section 1. The name of this Association shall be THE PACIFIC COAST SURGICAL ASSOCIATION.

ARTICLE II

Section 1. The object of the Association shall be to advance the science and practice of surgery.

ARTICLE III

Section 1. The Association shall consist of Active, Senior, Retired, Honorary, and Non-Resident Members.

Section 2. PCSA Council shall have the discretion to increase the number of Active Members in order to maintain the mission of the Association.

Section 3. No one shall be eligible for membership unless his/her practice is limited to surgery and he/she has established a reputation as a practitioner, author, teacher or original investigator, and has been recommended by the Council. Candidates must be in practice for two years on the West Coast. The candidate shall also have been certified either by the American Board of Surgery, the appropriate specialty Board, or its foreign equivalent.

Section 4. The Council shall have the power of decision in the consideration of each candidate's eligibility and its judgment upon such eligibility shall be final. No candidate for membership shall be voted upon at the executive session of the Association unless recommended by the Council.

Section 5. Proposals for membership shall be made by Members on applications furnished by the Secretary-Treasurer of the Association. The proposal of a candidate for membership shall be supported by letters to the Secretary-Treasurer from each of the three sponsors who shall vouch for his/her character and standing. The application and letters shall be presented to the Council by the Councilor of the region recommending the candidate.

Section 6. Proposals for membership, properly filled out, accompanied by the necessary endorsements and confidential letters from the sponsors, shall be in the hands of the Secretary-Treasurer at least four months before the date of the annual meeting. The Council at its annual meeting shall, after full consideration of all information available, recommend to the Association such candidates as are qualified for membership.

The Council shall have the power to request from any member of the Association a careful and unbiased investigation of the qualifications of any candidate for election to the Association. Any candidate for active membership may be assigned to a member of the Council for careful investigation as to his/her personal and professional qualifications.

Section 7. After recommendation by the Council, election to membership shall be by ballot at the executive session of each annual meeting and if three-quarters of the ballots are favorable, the candidate shall be declared elected. Candidates for active membership not brought forward to the Association for election by the Council in the first year after nomination may be reconsidered in the two subsequent years at the request of the Councilor and with support from their region.

Section 8. Candidates who have not been recommended for active membership by the Council three years after nomination, shall be withdrawn and their sponsors notified. This action shall not prevent the reproposal of such candidates for membership. Any candidate for membership who has been recommended by the Council, but not selected by the Association cannot be proposed again for membership for at least two years.

Section 9. Prospective Members after election must qualify within three months by the payment of the initiation fee and annual dues to the Secretary-Treasurer and by filing a recent photograph with the Association. To become an Active member, the nominee shall be expected to attend the first Annual Meeting after election to be introduced to the Association and to receive the certificate of membership. Should the nominee fail to attend the first subsequent meeting, the second Annual Meeting must be attended. If the nominee is unable to attend the second meeting, membership will not be conferred subject to action by the Council. Fees contingent on membership will not be refunded.

ARTICLE IV

Section 1. Active members shall have a practice that is limited to surgery.

Section 2. All Members shall automatically become Senior Members at the age of sixty (60) years. They shall pay dues and have the privilege of voting and holding office but are excused from the annual meeting attendance requirement.

Section 3. Active and Senior Members shall be required to pay association dues. They have the privilege of voting and holding office.

Section 4. Members are considered Retired upon reaching the age of seventy five (75) or retirement from active clinical practice, whichever occurs first. They are no longer required to pay Association dues.

Section 5. Candidates for Honorary Membership shall be nominated by the Council and elected by ballot at the executive session of the annual meeting. Honorary Members shall not be required to pay dues or initiation fees and shall enjoy all the privileges of other Members except those of voting and holding office.

Section 6. A Non-Resident Member shall be a Member under the age of sixty (60) who no longer resides in the Pacific Coast geographical area. He/She shall be excused from attendance requirements. He/She may vote at such meetings as he/she attends and enjoy all the privileges of the Association except that he/she may not hold office or membership on standing committees. He/She shall pay annual dues. A request for non-resident status must be submitted in writing to the Secretary-Treasurer and shall be granted only by the Council. Upon written request the Council may restore a Non-Resident Member to active status. At its discretion, the Council may terminate membership as a Non-Resident Member. A Non-Resident Member shall automatically become a Senior Member at age sixty (60).

Section 7. The resignation of a Member may be accepted at the discretion of the Council.

ARTICLE V

Section 1. The officers of the Association shall be a President, a President-Elect who becomes President one year following election, a President-Elect who becomes President two years following election, a Vice-President, a Secretary-Treasurer, a Recorder, an Historian, and four Councilors. There shall be a Program Committee appointed by the President, consisting of five members, one representing each of the four geographical sections of the Association, and the Recorder, who shall act as Chairman. The Council member and the Program Committee member who resides in the same geographical area as the Recorder shall act as an Advisory Committee to him/her.

Section 2. The Presidents-Elect, the Vice-President, the Secretary-Treasurer, the Recorder, and the Historian shall be elected for one year, and a Councilor shall be elected as provided by the Bylaws. The President shall not be eligible for re-election at any time. The Secretary-Treasurer and Recorder shall not serve more than six years, shall not both be retired in the same year, and shall not be elected from the same region of the Association.

Section 3. All officers shall be nominated by a Committee, appointed by the President, consisting of the three most recent past Presidents, at least three (3) months prior to the annual meeting. Additional nominations may be made from the floor.

Section 4. The election of officers shall take place at an executive session of the annual meeting. A majority of votes cast constitute an election.

ARTICLE VI

Section 1. It shall be the duty of the President to be present and to preside at all meetings of the Association; to see that the rules of order and decorum are properly enforced in all deliberations of the Association; to sign the certificates of membership.

Section 2. In the absence of the President, the Vice-President shall preside, and in the absence of the Vice-President, the Secretary-Treasurer shall preside.

Section 3. In the absence of all three, the Association shall elect one of its Members to preside pro tem.

Section 4. The Secretary-Treasurer shall keep the minutes of the Association and shall issue, at least six weeks prior to the annual meeting, a preliminary notice of the time and place of the meeting, and the business to be transacted. He/She shall issue the final program of the annual meeting and a list of the names of the candidates for Membership who are under consideration by the Council. He/She shall attest all official acts requiring certification, in connection with or independent of the President, notify officers and Members of their election and take charge of all papers not otherwise provided for. He/She shall serve as Secretary-Treasurer and keep minutes of the meetings of the Council. He/She shall, with the President, sign the certificates of Membership and receive all monies and funds belonging to the Association. He/She shall pay the bill of the Association, collect all dues and assessments as promptly as possible, report to have, in accordance with the Bylaws, regulating the same, forfeited their Membership. It shall be the duty of the President of the Association to appoint an Audit Committee, consisting of two (2) Members of the Association, whose duty it shall be to consult with a Certified Public Accountant, to examine the books of the Secretary-Treasurer, and to report on the same to the membership during the annual meeting. A full audit shall be performed as determined by the President and President-Elect in the final year of the Secretary-Treasurer term.

Section 5. It shall be the duty of the Historian to assemble and preserve the Archives of the Association for storage and reference. The Archives shall consist of the roster of the members of the Association since its inception, and such photographs as are available. At each Annual Meeting of the Association, the Historian shall be called on by the President to give a presentation of historical significance to the membership.

Section 6. The Recorder shall, as Chairman of the Program Committee, assemble the scientific program and forward it to the Secretary-Treasurer at least two months before the annual meeting. The Recorder shall receive all papers and reports of discussion on papers presented before the Association and as the Chairman of the Program Committee take charge of the publication of the papers presented before the Association.

ARTICLE VII

Section 1. Vacancies occurring in the offices of the Association shall be filled by appointment by the President until the next meeting. He/She shall also have the authority to appoint all committees not otherwise provided for.

ARTICLE VIII

Section 1. The Constitution may be amended at any regular meeting by a written resolution embodying the proposed changes, which shall lie over for one year and which must receive approval by two-thirds of the members present and voting.

ARTICLE IX

Section 1. The President, the two Presidents-elect, Vice-President, Secretary-Treasurer, Recorder and Historian shall act as ex-officio members of the Council with the right to vote.

Bylaws

These Bylaws were approved at the 2017 PCSA Business Meeting.

CHAPTER I

Section 1. The Pacific Coast Surgical Association shall meet annually at such time and place as may be designated by the Council, preferably on President's Day weekend.

Section 2. There shall be at least one annual executive session of the Association, at which the order of business shall be as follows: (a) reading the minutes of the last meeting; (b) reports of the Secretary-Treasurer, Recorder and Historian; (c) reports of the Council; (d) report of Program Committee; (e) reports of representatives of the Association to the American Board of Surgery and to the American College of Surgeons; (f) unfinished business; (g) new business; (h) report of Auditing Committee; (i) report of Nominating Committee; (j) election of officers; (k) election of Members; (l) induction of new officers; (m) adjournment.

CHAPTER II

Section 1. The Members present at any executive session shall constitute a quorum for business.

CHAPTER III

Section 1. The annual dues and the initiation fee shall be recommended by the Council and voted upon by the membership each year at the annual meeting. Members may be exempted from payment of dues at the discretion of the Council.

CHAPTER IV

Section 1. The usual parliamentary rules (Robert's Rules) governing deliberative bodies shall govern the business workings of the Association.

CHAPTER V

Section 1. All questions before the Association unless otherwise provided shall be determined by a majority vote of the members present and voting except changes in the Constitution and Bylaws which require a two thirds

(2/3) majority and election of new members require a three fourth (3/4) majority.

CHAPTER VI

Section 1. The President shall deliver an address at the annual meeting of the Association.

CHAPTER VII

Section 1. The Secretary-Treasurer and Recorder of the Association shall receive at each annual meeting a draft from the President for such sum as may be voted by the Council for services rendered the Association, and to this shall be added the necessary expense incurred in the discharge of his/her official duties.

CHAPTER VIII

Section 1. Those members submitting titles of essays shall supply the Recorder with the title and an abstract of the proposed essay. The program committee shall have the responsibility for choosing the primary discussant. The discussant shall receive a copy of the essayist's paper not later than two weeks before the annual meeting. The presenting author and opening discussant shall submit the manuscript and a text of the discussion ready for publication just prior to presentation.

CHAPTER IX

Section 1. The Council shall consist of five members, of which four are elected, the fifth member to be the retiring president who automatically serves for one year. The President, President-Elect, Vice President, Secretary-Treasurer, Recorder and Historian shall act as ex-officio members of the Council with the right to vote. One member of the Council shall be elected annually to serve four years. Any member of the Association shall be eligible for membership on the Council, provided that each regional section of the Association shall always be represented on the Council. These regional sections, which may be enlarged at the will of the Association, shall consist, respectively, of the Members residing in 1) Washington, British Columbia and Alaska, 2) Oregon and Hawaii including the U.S. Pacific Territories, 3) Northern California to, but not including Santa Barbara and Bakersfield, 4) Southern California including Santa Barbara and Bakersfield.

The President shall be notified by any Councilor who is unable to attend a meeting of the Council. Upon such notification, the President shall appoint from the Councilor's regional section an alternate who shall act as Councilor for that meeting.

Section 2. The President shall preside as Chairman of the Council and the Secretary-Treasurer shall keep record of its proceedings.

Section 3. The duties of the Council shall be: 1. To investigate candidates for membership and report to the Association the names of such persons as are deemed worthy. 2. To take cognizance of all questions of an ethical, judicial, or personal nature, and upon these, the decisions of the Council shall be final, provided that appeal may be taken from such decision of the Council to the Association under a written protest, which protest shall be voted upon by the Association. 3. All resolutions before the Association shall be referred to the Council before debate, and the Council shall report by recommendation at the earliest hour possible. 4. The Program Committee and the Council shall have power to invite guests to appear on the scientific program. 5. The Council at the invitation of the President shall meet at some date preceding the annual meeting for consideration of matters of importance with reference to the annual meeting and particularly with reference to the eligibility of proposed candidates for admission.

CHAPTER X

Section 1. The Council shall have full power to withdraw from submission for publication any paper that may be referred to it by the Association, unless specially instructed to the contrary by the Association, which shall be determined by vote.

CHAPTER XI

Section 1. The President shall appoint for the following annual meeting a Committee on Arrangements, and the Program Committee as provided in the Constitution. The Program Committee shall consist of four members representing each of the caucuses and a chairman. A Program Committee member shall serve for three years and shall be eligible for reappointment for one additional term.

CHAPTER XII

Section 1. Active membership shall be forfeited by failure to be present at four consecutive meetings. After failure to attend three consecutive meetings, the Secretary-Treasurer will notify the member that a fourth consecutive absence will terminate his/her membership. In cases where the fourth absence was caused by extremely compelling circumstances, the Council may at its discretion, stay the termination of membership. Failure by any member of the Association to pay dues for one year may be considered sufficient cause to drop the member from the membership roll on recommendation of the Council to the Association. Membership also may be forfeited for reasons deemed sufficient by the Association.

Section 2. Attendance at an annual meeting shall be defined as registration with Secretary-Treasurer, payment of the registration fee and attendance at not less than one scientific session. Retired members and those exempt from dues because of illness shall have the privilege of attending the annual meeting at a registration fee determined by the Council.

Section 3. At the discretion of the Council, and for good and sufficient reasons, an Active Member may be transferred to the list of Senior Members.

CHAPTER XIII

Section 1. A paper shall not be read before this Association which has been published previously or which does not deal with a subject of surgical importance. The member shall close the discussion.

Section 2. The maximum time allowed essayists shall be 10 minutes, except by permission of the Program Committee. The primary discussant shall be allowed 5 minutes, each subsequent discussant 2 minutes, and final closing discussant 5 minutes except by permission of the Program Committee.

Section 3. No paper read before this Association shall be published in any medical journal or pamphlet for circulation as having been read before the Association without having received endorsement of the Program Committee.

Section 4. At the discretion of the Program Committee, poster sessions may be held during the scientific meeting. Papers representing work from these

poster sessions may be submitted for consideration for publication to the journal of their choice.

CHAPTER XIV

Section 1. The Scientific Meetings shall be open to any member of the association in good standing in his/her profession, provided he/she establish his/her identity, or their invited guest. Only an officially invited guest may register and attend functions.

Section 2. The Association shall have no financial responsibility for invited guests, except distinguished guests invited by the President.

CHAPTER XV

Section 1. Pursuant to Article V, Section 3, of the Constitution, the Nominating Committee shall request some specific information from each of the four regional sections where new candidates are required for the offices of the President-Elect, Secretary-Treasurer, Recorder, and Regional Councilor. An election with written mail ballot shall be held within each regional section involved in selecting candidates for each of these four offices. The Regional Councilors will conduct the balloting and provide the Nominating Committee with a report reflecting the wishes of their caucus. The Nominating Committee may review the ballots if questions arise about the voting process.

Section 2. The candidate for Vice President shall be selected by each President-Elect.

CHAPTER XVI

Section 1. These Bylaws may be amended at any annual meeting by a two-thirds vote of the Members present and voting. Proposed amendments shall be made in writing as motions before the Association and shall then be dealt with in accordance with the provisions of Chapter IX, Section 3, Paragraph 3, of the Bylaws.

SAVE THE DATES FOR 2024

95th Annual Meeting

February 16-19, 2024
President's Day Weekend
Hosted by the Southern California Caucus
President-Elect Christian de Virgilio
Westin Rancho Mirage Golf Resort & Spa
Rancho Mirage, CA

PCSA's Official Journal is JAMA Surgery




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