



DEPARTMENT OF SURGERY

ANNUAL REPORT

2022 – 2023

*University of Arizona College of Medicine - Phoenix
Banner University Medical Center- Phoenix, Arizona*



COLLEGE OF MEDICINE PHOENIX
Surgery



Banner
University Medical Center
Phoenix

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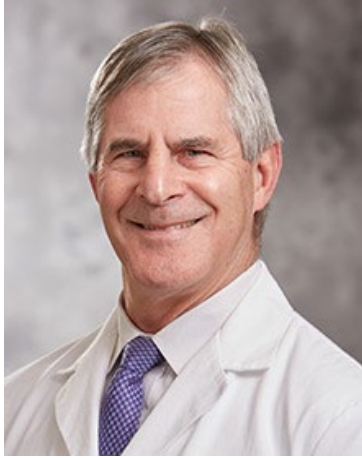
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**MESSAGE FROM
THE CHAIR OF SURGERY
Nathaniel J. Soper, MD, FACS, MAMSE
Professor**

The Department of Surgery vision and mission statements for our department are as follows:

Vision: 'Safer surgery today, Superior surgery tomorrow'

Mission: To provide outstanding surgical care to all who come in need, within an environment of collaboration, education, investigation, innovation, equity, diversity, and inclusion.

Over the past year, we were fortunate to recruit Dr. Farah Husain away from Oregon Health and Sciences University. She is the Vice-Chair for Quality within the DoS and Chief of the Division of Bariatric and Metabolic Surgery. Under her leadership, and in collaboration with Dr. Christian Nasr, Chief of the Division of Endocrinology, a combined medical and surgical bariatric and metabolic program has been formed to provide comprehensive care for obese adults and adolescents within the Phoenix valley. The opening of the new Arcadia 'Banner plus' clinic location has allowed for a marked expansion of the program, which should also greatly increase the volume of bariatric surgery over the coming years.

Dr. Natasha Keric was recently promoted to Division Chief of Trauma and Emergency Surgery Services. Already the largest division in the department, she plans to enhance its research portfolio, increase the utilization of robotics for emergency surgery, and expand the provision of surgical critical care services. An exciting development has been the approval to initiate a fellowship in Surgical Critical Care, likely beginning in the next academic year. A major transition within the group was the recent retirement of Dr. Corey Detlefs, a beloved trauma surgeon who served on this campus for more than 30 years.

Dr. Karel deLeeuw was successfully recruited back to lead the Section of Oral and Maxillofacial Surgery. He plans to recruit one or two additional surgeons into the group and increase its academic productivity.

Although the details will be explained in depth below, I am too excited not to mention the initiation of the first space surgery fellowship (in the world), which officially began on July 1, 2023. The APEX training program has stimulated much interest around the country and is being led by one of our previous general surgery residents, Eric Petersen, who recently finished a Surgical Critical Care fellowship at Stanford University.

The Phoenix valley and Banner system suffers from a lack of providers in the field of ENT-Otolaryngology. We recently opened a national search for a Division Chief of ENT, with the ultimate plan to develop a training program in this much-needed surgical area. Likewise, we are in the process of developing an academic program in Plastic Surgery.

Emerging from COVID: OR improvements/case volumes/robotics enhancement

As was the case for virtually all hospitals, the COVID pandemic and accompanying 'great resignation' wreaked havoc at Banner University Medical Center-Phoenix (BUMCP) and the entire Banner Health system. Elective surgical operations were curtailed, bed capacity was reduced and budgets at the hospital and its mother system were negatively affected. Over the first half of calendar year 2023, however, we have bounced back. O.R. utilization and operative case volumes have risen to all-time highs and traveling nursing services have been scaled way back. Operations using robotic technology have increased markedly to all-time highs, achieving the highest volumes in the Banner system. As a result, approval was recently given to open four 'shelled' O.R.s at BUMCP and add an additional XI robot. Good news, indeed!

Institutional transitions:

In the three years I have been Chair of the Department of Surgery at the University of Arizona College of Medicine-Phoenix there have been many leadership changes within our complex matrix. Dr. Guy Reed will be stepping down as Dean of the medical school, and a search is underway for his replacement. Multiple departmental chairs have recently been hired, markedly increasing the academic emphasis of the existing programs. A strategic plan is being developed by the academic leadership to leverage our relationships with the university and our clinical partners.

The Banner University Medical Group-Phoenix (BUMGP) is composed of the employed physicians that work at BUMC-P. Its leadership recently changed, and clinic operations are being optimized. We also work closely with Banner-M.D. Anderson to provide outstanding cancer care to our patients. Many of the surgical providers at BUMC-P and other Banner sites are in private practice but provide excellent training opportunities for our surgical residents. In order to increase medical and surgical practitioners in the state of Arizona, a plan was recently approved to expand residency training programs in a number of areas, including general surgery.

Thank you for taking the time to read about the exciting developments occurring in the Department of Surgery at the University of Arizona College of Medicine-Phoenix. It is my absolute privilege to lead this outstanding group of academic surgeons.

Sincerely yours,



Nathaniel J. Soper, MD, FACS, MAMSE
Professor and Chairman, Dept. of Surgery
University of Arizona College of Medicine-Phoenix
Surgical Director Perioperative Operations, Banner University Medical Center

BY THE NUMBERS

27 - Employed Faculty

Employed Faculty by rank:

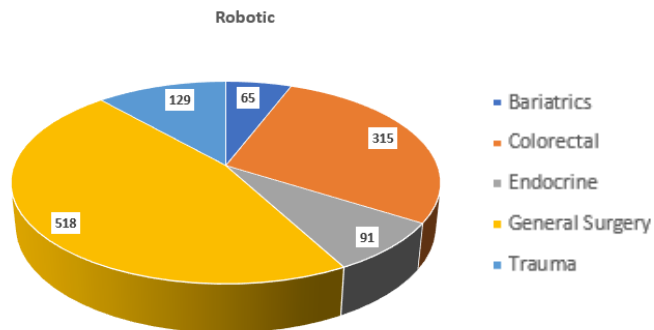
| | |
|------------------------------|---|
| Assistant Clinical Professor | 8 |
| Assistant Professor | 6 |
| Associate Clinical Professor | 3 |
| Associate Professor | 6 |
| Clinical Professor | 2 |
| Professor | 2 |

335 - Surgical Faculty

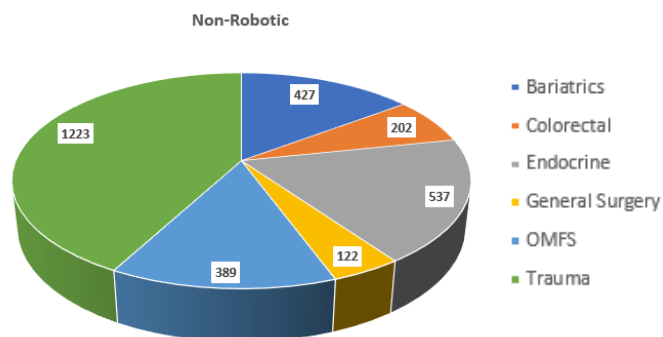
45 - General Surgery Residents

11 - Oral Maxillofacial Surgery Residents

1118 - Annual robotic cases



2900 - Annual non-robotic cases



MEET OUR FACULTY



Top row, pictured left to right:

Rosemarie Metzger MD, MPH, Priya Rajdev MD, Jon “Alex” Nelson DO, Jason Weiss MD, Eric Petersen MD, MS
Karel deLeeuw DDS, MD, MBA, Jerome Manson MD, G Paul Dabrowski MD

Middle row, pictured left to right:

John Gillis DMD, Christine Lovato MD, Nathaniel J. Soper, MD Chair, Jack Buhrow DDS, MS, Kelsey Hoidal MD,
Allison Tompeck MD

Front row, pictured left to right:

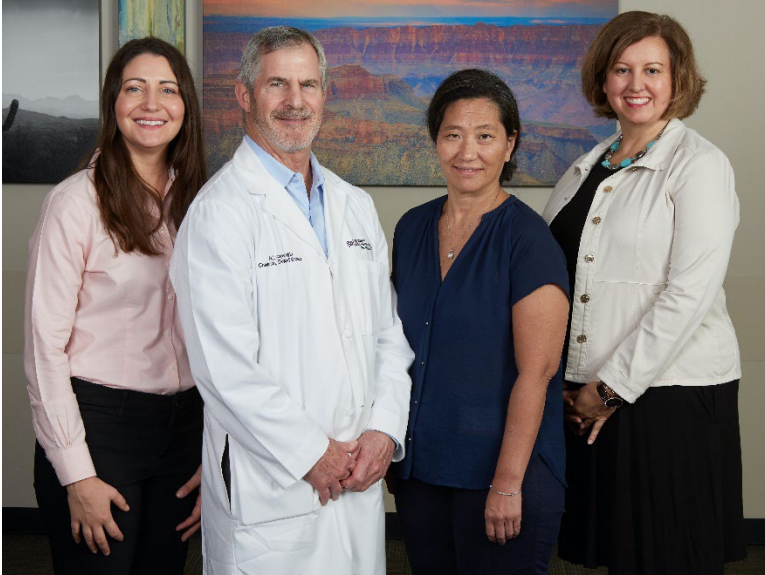
MacKenzie Landin MD, Jennifer Preston MD, Mira Milas MD*, Farah Husain MD*, Natasha Keric MD*,
Ara Feinstein MD, MPH

*Not pictured: Morgan Crigger MD, Jack He MD, Eugene Kim MD, Nirav Patel MD, Amy Sisley MD, MPH,
Julie Wynne MD, MPH*

*Division Chief

ADMINISTRATION TEAM

Meet our talented administrative team in the Department of Surgery who “Make it Happen” at Banner University Medical Center Phoenix campus and valley. We are very fortunate to have an amazing team putting patients first, exemplifying customer service and dedication in all that they do.



Pictured left to right: Rachael Vasko, RN, BSN, MHI Administrator, Nathaniel J. Soper, MD Chair, Mia Boger, Executive Assistant, Alexandra Lowery, Supervisor, Senior Administrative Assistant

Not pictured: Katheryn Kovacic, Associate Director, Mark Loudenslagel, Associate Director, Shanna Baker, Surgery Residency Program Supervisor

Clinical Sites



BANNER UNIVERSITY MEDICAL CENTER - PHOENIX

1111 E McDowell Rd, Phoenix, AZ 85006 *602-839-2000*

The state's largest hospital, part of the Banner Health system, is an important clinical education site. Banner - University Medical Center Phoenix (formerly Banner Good Samaritan) has served the area for more than 100 years and is known as a top teaching hospital. BUMCP has several nationally renowned programs such as high-risk obstetrics, neurology, robotic surgery, and transplant. <https://www.bannerhealth.com>



BANNER UNIVERSITY MEDICAL CENTER - PHOENIX 1441 Ambulatory Clinics Building

1441 N. 12th Street, Phoenix, AZ 85006 *602-521-5969*

The 1441 Ambulatory Clinics Building is located on the campus of Banner University Medical Center Phoenix. Our surgical specialties clinics include Bariatric and Obesity Medicine, Colon and Rectal Surgery, Endocrine Surgery, General Surgery and Oral & Maxillofacial Surgery along with several multi-disciplinary care clinics such as abdominal wall reconstruction, foregut- inflammatory bowel disease.



Banner Health Center *plus* - Arcadia

4200 E Camelback Rd, Phoenix, AZ 85018 *(602)839-4567*

This newest facility opened on February 15, 2023 with an emphasis on collaborative care all under one roof. The campus, located at Camelback and 44th Street in Phoenix, AZ is a 70,000 square -foot, two story standalone building following a new model of care centered around providing a positive and convenient experience for our patients and their family's needs in a single location. Arcadia house multiple surgical specialties including bariatric & obesity medicine, colon & rectal surgery, and general surgery.

SURGICAL EDUCATION

PHOENIX INTEGRATED SURGICAL RESIDENCY

The Leadership Team



Jennifer Preston, MD
Program Director



MacKenzie Landin, MD
Associate Program
Director - Simulation



Jon "Alex" Nelson, DO
Associate Program
Director - Curriculum



Howard Bourdages, MD
Associate Program
Director – QI/PS

Program Administrative Team



Shanna Baker
Surgery Residency
Program Supervisor



Joanna Franco Reyes
Surgery Residency
Program Coordinator

Training the future...

45 Residents

40 Categorical

5 Preliminary

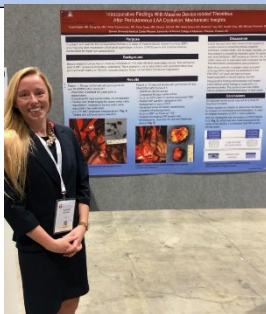
From all over the country...



MONTANA



Program Accomplishments



- Increased resident involvement with research including participation on the Department of Surgery Research Committee and 8 resident presentations at national meetings
- Enhanced the simulation curriculum including the addition of pig labs, an advanced robotic hernia course for senior residents and roll out of a laparoscopic common bile duct exploration curriculum

- Developed a rural surgery training curriculum through a partnership with the Billings Clinic in Montana. This experience includes exposure to trauma/critical care, elective surgery and subspecialty care with a focus on management in a rural environment as well as rotations through various Critical Access Hospitals throughout Montana
- Created a Residency Wellness Committee that includes participation from resident nominated faculty members and resident representatives from each PGY class. This committee conducted a wellness survey needs assessment and has developed wellness initiatives for the upcoming academic year.
- Continued to improve resident assessment with ongoing use of the SIMPL app (resident operative autonomy assessment), improved end of rotation evaluations and educated faculty and residents on Entrustable Professional Activities with intent to roll out SIMPL for EPAs in the next academic year
- Welcomed back two of our former graduates as new teaching faculty including Dr. Morgan Crigger on the Trauma/Acute Care Surgery Service and Dr. Eduardo Alcantar as part of our Cardiothoracic Surgery Team.



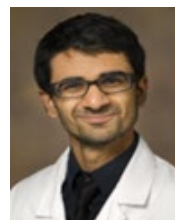
2023 General Surgery Resident Graduates



Harriet Barratt MD
Trauma/Critical Care
Cedars-Sinai Medical Center



Maryam Khan MD
Breast Surgical Oncology
Columbia University



Kashif Malik MD
Cardiothoracic Surgery
Rush University



Falak Patel MD
Trauma/Critical Care



Lora Shirey MD
General Surgery Practice
Arizona Advanced Surgery



Alicia Taase MD
Cardiothoracic Surgery
Banner University Medical Center



Caitlin Thornley MD
Transplant Surgery
UCLA

Looking Forward

We are excited for a few things in the next academic year...

- We will welcome back two more of our graduates as teaching faculty on the Trauma/Acute Care Surgery Service, Dr. Kelsey Hoidal and Dr. Eric Petersen!
- Ongoing faculty and resident education on EPAs and roll out of the required ABS EPAs through the SIMPL app
- Enhancement of ABSITE prep curriculum including ABSITE quest for ongoing support of resident board prep
- Elimination of PGY4 in house trauma call, the final in house 24hr call requirement for our residents at BUMCP!
- Implementation of Wellness Committee Initiatives including topics in work-life integration, workload and meaning in work.
- Development of a defined 'rural track' within the residency
- Finally, we are excited to announce the approval of expansion of our program to include two additional categorical residents per year to start 2025! This year we will develop training tracks to include expansion of our rural surgery training and an ongoing focus on general and acute care surgery training. More to come!

Resident Voice



**Michael Zhou, MD
PGY5**

"My last four years of training at the University of Arizona - Phoenix general surgery residency have been the most formative. Clinically, we not only staff a tertiary referral center and ACS level-one trauma center with a diverse patient population and some of the most advanced surgical pathologies, but we also go to multiple community hospitals with even higher surgical volumes and some of the busiest emergency departments in the region. We have the unique privilege to rotate at Alaska Native Medical Center in Anchorage, where we help underserved native Alaskans with rural general surgeons. We also have a robust trauma and acute care surgery experience. My co-residents and I feel practice-ready at the end of the five years.

However, I love this program because of the people. We have nurtured a collegial, supportive, and adaptive environment where first-year residents and chief residents are treated as colleagues. Residents are evaluated with actionable, growth-oriented feedback. Culture is set from the top down, and our program leadership consists of strong resident advocates who are always receptive and constantly adapting the training experience to our feedback. At UA-Phoenix, our voices are heard."

Good Samaritan Society



*In 2021, we announced the formation of an official Alumni Society for the Phoenix Integrated Surgical Residency, the **Good Samaritan Society (GSS)** with the purpose of supporting scholarly and educational opportunities for the residents and keeping the alumni, faculty and residents connected to one another. Through several generous inaugural donations to the Good Samaritan Society, we have been able to continue to support the annual dinner at the Phoenix Surgical Society Annual Meeting, fund several resident research presentations at national meetings and fund resident participation in educational courses like the ACS Advanced Surgical Skills for Exposure in Trauma (ASSET) course.*

We hope that you will kindly consider donating to the Good Samaritan Society Fund so that we can continue to fund these opportunities for our residents.

Gifts can be made online at give.bannerhealth.com/GSS, using the QR code below or by mail to Banner Health Foundation at 2901 N. Central Avenue, Suite 160, Phoenix, AZ 85012.



Visiting Professors

Dr. Christine Lovato serves as the coordinator for our weekly surgery grand rounds conferences. Local and regional speakers give most of the presentations, but we are fortunate to have a series of Visiting Professors sharing their wisdom with our faculty and residents. We welcomed a series of internationally known authorities during the past year:



November 10, 2022

Dana Telem, MD, MPH
University of Michigan

“The Science of Clinical and Culture Change”



December 1, 2022

Kenneth Cherry, MD
University of Virginia

“The History and Art of Open Aortic Surgery”



February 16, 2023

Gregory Kennedy, MD, PhD
University of Alabama at Birmingham

““Time” to Study the Quality of Surgical Care



February 23, 2023

Caprice Greenberg, MD, MPH
University of North Carolina

“Surgical Coaching for Individualized Performance Improvement”



March 2, 2023

Irving Jorge, MD, MBA
Mayo Clinic College of Medicine and Science

“No stone left behind: The Laparoscopic Cholecystectomy with Common Bile Duct Exploration”

Visiting Professors



March 23, 2023

Barbara Bass, MD

George Washington University

“Reflections of a Senior Surgeon and Dean: Personal Recognition of Formative Moments and Tools for Career Growth, Satisfaction, and Mentorship”



June 1, 2023

Each year prior to the graduation of residents, the Department of Surgery is honored to continue the annual “Harlan Stone Day and Annual Research Day” in tribute to the amazing impact and legacy for Dr. H. Harlan Stone. This annual tradition includes podium presentations by faculty and residents on research, scientific collaborations, and information about new programs. We ask a visiting professor to headline that festive day. This year’s Harlan Stone visiting professor was Karen Brasel, MD, MPH from Oregon Health and Sciences University. Her presentation was entitled, “Entrustable Professional Activities: What? Why? How?”

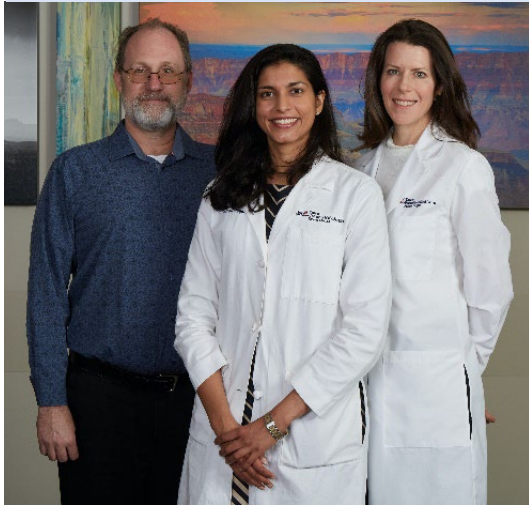
The Stone Visiting Professors

| | |
|------|------------------------------|
| 2005 | William Stone, MD |
| 2006 | Richard Mullins, MD |
| 2007 | Bhagwan Satiani, MD |
| 2008 | Tim Fabin, MD |
| 2009 | William Brouder, MD |
| 2010 | Christopher “Chip” Baker, MD |
| 2011 | Lee Swanstrom, MD |
| 2012 | David V. Feliciano, MD |
| 2013 | J. David Richardson, MD |
| 2014 | Phillip Burns, MD |
| 2015 | Martin Croce, MD |
| 2016 | Harlan Stone, MD |
| 2017 | Lawrence J. Koep, MD |
| 2018 | Anthony “Tony” Meyers, MD |
| 2019 | Richard Thirlby, MD |
| 2020 | Richard T. Perry, MD |
| 2021 | Amalia Cochran, MD |
| 2022 | Karl Y. Bilimoria, MD |
| 2023 | Karen Brasel, MD |



H. Harlan Stone, MD
Professor of Surgery Emeritus

Surgical Clerkship



Celebrating Excellence in Surgical Education

Pictured left to right: Jason Taylor, Clerkship Coordinator, Priya Rajdev, MD Clerkship Director, Rosemarie Metzger, MD Associate Clerkship Director

Celebrating Excellence in Surgical Education: Medical Student Education Highlights 2022-23

We are excited to showcase the ongoing developments within medical student education including the third-year clerkship, fourth-year intern readiness “bootcamp,” and our revitalized surgical interest group which spans the pre-clinical and clinical years. Our shared commitment to educating the next generation of physicians has been recognized by our students as well as by the leadership of the College of Medicine.

Rising Interest in Surgery as a Specialty

A testament to the excellence of our educational initiatives, we are experiencing a significant increase in the number of medical students who are choosing general surgery or a surgical sub-specialty as their career of choice. Indeed, many of these students matched into the PISR intern class of 2023. This trend is a direct reflection of our faculty’s enthusiasm for and commitment to patient care, our model of comprehensive clinic-to-OR training environments, exposure to cutting-edge evidence-based practice, and mentorship provided within our department. Our students' growing interest in surgery stands as a testament to the reputation we have built as a pillar of excellence in education within UACOM-P. As the medical student class size continues to grow, we fully expect to see increasing numbers of our graduates matching successfully into surgical residency programs around the country.

Renewed Enthusiasm for the Medical Student Interest Group

The Medical Student Interest Group in Surgery has experienced an exciting revival this year. Led by passionate faculty/resident advisors including Dr. Farah Husain and Dr. James Sherpa (PGY2) and driven by the genuine interest of our medical students, the group is becoming become a hub for collaboration, skill-building, and networking. Currently, the group is working towards increased student involvement in

research projects and attendance at weekly Morbidity and Mortality conference as a clinical learning opportunity. In the coming months, this group plans to hold journal clubs, surgical simulation events, and mentorship events with invited faculty. Stay tuned for invitations to participate in this exciting way to help students explore their interest our field and related sub-specialties.

Surgical Intern Readiness Bootcamp

The Surgical Intern Readiness Bootcamp has emerged as a standout success of our clinical curriculum. This immersive four-week program, staffed by our esteemed faculty and residents, offers an intensive preparation experience for fourth-year medical students who are just a few short months away from being surgical interns. The bootcamp's innovative curriculum includes mock pages, cadaver dissection lab, hands-on training in the sim center, focused lectures on advanced problems in surgical patient care, and mentorship sessions with faculty and residents. The mock pages were particularly high yield, as our nurses led students through real-world scenarios that mirror the challenges and expectations of surgical interns. This initiative not only reinforces the technical skills required but also instills the confidence and critical thinking necessary for a seamless transition into any demanding residency environment. We would like to specially thank the faculty and residents who participated in the 2023 course: Drs. Natasha Keric, Richard Perry, Mira Milas, Nat Soper, Alex Nelson, MacKenzie Landin, Jerome Manson, Farah Husain, Jennifer Preston, Kumash Patel, Paul Dabrowski, Justin Owumi (PGY3), Michael Zhou (PGY5), Kylie Knoles-Barrett (PGY2), Taylor Norton (PGY5), Olivia Tsai (PGY2), and Brenna McElenney (PGY2).

Student Feedback Excellence

Our dedication to delivering an outstanding surgical education experience has not gone unnoticed—the feedback from medical students from UACOM-P as well as from visiting sub-interns participating in our program has been very positive, consistently highlighting the exceptional quality of teaching, mentorship, and our faculty's overall genuine approachability. With a strong emphasis on operative experience, our faculty's commitment to developing a positive and supportive learning environment across a wide range of hospitals and clinical settings has translated into high student satisfaction and engagement levels.

New Associate Clerkship Director



We are very pleased to announce that Dr. Rosemarie Metzger will be joining our Surgery Clerkship as our Associate Clerkship Director. In this role, Dr. Metzger will provide one-on-one guidance for the medical students and will play a critical role in ongoing curriculum development as our clerkship continues to evolve. She is an outstanding educator and colleague, and we are excited for the exceptional ideas and energy she will bring to our team.

As we continue to push forward the mission of surgical education, these highlights serve as a reminder of the constant collective efforts of our dedicated faculty, motivated residents, and supportive community of APPs and nurses. Together, we are shaping the future of surgical practice, innovation, and patientcare. The Department of Surgery remains committed to fostering a culture of excellence, inclusivity, and collaboration as we equip the next generation of physicians with the skills and knowledge they need to excel in their careers.

We would like to close out our contribution to this newsletter with a short essay composed by two of our current third-year medical students. As of the 2023-24 academic year, our clerkship students must complete two shifts in the trauma bay and compose a written reflection on their experiences to qualify for an Honors grade. In the spirit that we should all reserve moments to reflect upon the humanity of our patients and ourselves, we share this narrative, written by Emma Kar and Benjamin Adams.

“My two trauma shifts reminded me of the privilege we have as healthcare professionals, especially physicians, and the duty we have for our patients, specifically in acute care settings. While my first shift was an insightful one, the second one challenged me to face these truths when I was later reflecting on all that had happened.

When I arrived for my second shift, there were already two patients in the trauma bay who had been in an MVA and sustained multiple fractures and lacerations. One patient was a young woman, the same age as me, who was lying motionless in a C-collar with tears dripping down her face. I offered her my hand to squeeze and wiped the tears from her eyes as the Ortho resident drilled a rod into her distal femur. I couldn't help but think that an hour ago she was driving on her way to anywhere but the hospital. She probably had plans for that night or the next day, but now she was lying naked in a hospital gown in extreme pain and unable to move. I think of her every time I get behind the wheel of a car. She was in pain, screaming and cursing, as this rod went into her leg, while the Ortho resident continued to say “I'm sorry. I only want to help you.” This whole situation was conflicting for me to process, as we learn physicians are to “do no harm,” but in this case by helping we continued to inflict pain. She couldn't fight back or help herself. She had to trust us. She reminded me of the privilege and power of physicians and to never take it for granted.

Later at 1 am, I was reminded of this incredible honor we have while scrubbed into an I&D case that was complicated by Fournier's gangrene. Hours earlier, we were standing in the ED talking with the patient's parents, explaining the severity of the situation at hand. Now, here he was lying on the OR table in one of the most vulnerable positions (lithotomy) as we worked to help in every way we could. Again, another helpless patient and all he and his family could do were trust us. I couldn't help but think how fortunate we are to be in a field where, by adding two letters to the end of your name, strangers are willing to give you complete control and trust.

I have never felt so much honor and responsibility than in these moments when I was part of a team that was entrusted with the lives of strangers in their most vulnerable times. It brought me back to a quote from *When Breath Becomes Air* that I frequently reflected on during my process of applying to medical school: “The physician's duty is not to stave off death or return patients to their old lives, but to take into our arms a patient and family whose lives have disintegrated and work until they can stand back up and face, and make sense of, their own existence.” I believe these patients were meant to come into my life that night to remind me to never forget the commitment we make.”

-- Emma Kar, M3

“The evening had started off slow with a couple of minor motor vehicle accidents that had fortunately resulted in minimal injuries. My resident and I spent most of the time rounding on patients and chatting about career advice. It all changed literally as the clock struck twelve, and we received news that a femur fracture was coming in. This news went from bad to worse as we realized that said fracture was caused by a gunshot wound, and the clock had started on tourniquet time.

“Get in there!” are the best words a medical student can hear. It means there’s work to be done, and the team cares enough about you that they want you to get some experience. I then underwent the monumental task of fetching an ace wrap to stabilize the patient’s leg. My blood had run cold as I saw the patient’s birthday and realized they were younger than me. Pictures came back, and worse went to worst as we realized that major vascular damage had been done, and we quickly booked an OR. Ortho was going first to stabilize the fracture, and then vascular was going to try to clean up the damage to the vasculature. Suddenly bandaging the leg didn’t seem so difficult.

Most of my participation in the ortho part of the case consisted of feeling the vibrations of a power drill through my body, as I held the leg in various positions. At the very end, I heard the call of “Knife!” as they realized it was an easy incision to retrieve the bullet that had done so much damage. I waited and watched, only to realize that they were trying to hand the scalpel to me. It was quite a feeling to call out “Incision,” as I made the quick cut and retrieved the slug.

It was then vascular surgery’s turn. Already 4 AM, I felt myself fading until the attending called out, “Ben, scrub in too!” I obliged, expecting to be relegated to holding suction. Suddenly, I found myself in the position of first assistant. “Show me what you got,” the surgeon said to me as he handed off a piece of silk and instructed me to tie off blood vessels. The next three hours were a blur as we anastomosed a shredded femoral artery and ligated the femoral vein. My heart was filled with relief when the Doppler gave the siren call of strong, multiphasic pulses where hours earlier there had been none.

During that case, I had felt fear, apprehension, exhilaration, and finally the greatest emotion of all: gratitude. We did what I never even had thought possible, saving a limb that had had every important structure destroyed. More importantly, we had saved our patient from permanent disability. It went to show that it’s always the right time to do the right thing.”

Benjamin Adams, M3

ACADEMICS

Research Committee

The 2022 academic year has brought many exciting changes for the academic mission of the department. After a brief hiatus during the COVID-19 pandemic, the department has reinstated its research committee in October 2022. The research committee consists of not only three faculty members (Drs. Mira Milas, Mackenzie Landin, and Jack He), but also two resident members (Drs. Rinku Skaria and James Sherpa) and support staff (Anna Valencia) from the University of Arizona. The committee aims to foster a collaborative and inclusive environment for our faculty, residents, and students by supporting research, publications, and innovation efforts.



Pictured left to right: Dr. Mira Milas, Anna Valencia, Dr. Rinku Skaria, Dr. Nat Soper, Dr. Jack He, Dr. Mackenzie Landin, Dr. James Sherpa

To accomplish this goal, the committee has created a research project database that captures all ongoing research projects within the department. It has published a quarterly research newsletter, *The Doppler*, to inform the department of ongoing academic projects and highlight academic achievements. It also been tasked to review research proposals and allocate the department research seed fund. So far, four proposals have been evaluated and received research funding.

The committee has also specifically focused on encouraging resident physician involvement in research. As a part of our annual celebration of Dr. Harlan Stone, our residents presented their quality improvement projects and research project. The best project was selected in each category. This year, Drs. Eleanor Kitchell and Michael Zhou won in quality improvement and research categories respectively. On a national level, multiple residents have worked with their faculty mentors and presented their work at meetings such as American College of Surgeons (ACS), American Heart Association (AHA), Academic Surgical Congress (ASC) and Western Trauma Association (WTA).





Pictured Left to right: Dr. Kelsey Rupp with her mentor Dr. Jack He at ACS; Dr. Michael Zhou at WTA; Dr. Eleanor Kitchell at AHA; Dr. Falak Patel at ASC

Looking to the near future, the committee will be hosting the first research grand rounds to give voice to residents to share their research experience. Lastly, the Department of Surgery research website will be coming online soon. The website will provide a comprehensive destination for all research-related needs, from medical students interested in joining research projects to video lectures on project design.

Resident Presentations

Michael Zhou MD

Presented “Level One Trauma Center Proliferation Worsens Patient Outcomes” at Annual Harlan Stone Day (best research project), Arizona ACS COT resident paper competition (first place), and Western Trauma Association

Eleanor Kitchell MD

Presented “Intraoperative Findings with Massive Device-related Thrombus after Percutaneous LAA Occlusion: Mechanistic Insights” at the American Heart Association

Kelsey Rupp MD

Presented “Native American Trauma Outcomes: A State-Wide Analysis” at Arizona ACS and American College of Surgeons

Falak Patel MD

Presented “Implementation of Cervical Collar Clearance Protocol Safely Decreased Length of Stay” at Academic Surgical Congress

Taylor Norton MD

Presented “Increased number of lower-level trauma centers do not improve patient outcomes” at the Academic Surgical Congress

R. Jake Bachofer MD

Presented “Case Report: Rare case of small bowel evisceration through the anus in the setting of chronic rectal prolapse and rectal perforation treated via laparoscopic Hartman’s” at the Montana, Idaho & Wyoming Regional ACS Meeting

Morgan Vonasek MD

Presented “Laparoscopic cholecystectomy in cardiogenic shock and heart failure” at Harlan Stone Day

Resident Publications

Thilen, Stephan R. MD, MS*; **Sherpa, James R. MD†**; James, Adrienne M. BS*; Cain, Kevin C. PhD‡; Treggiari, Miriam M. MD, MPH, PhD§; Bhananker, Sanjay M. MBBS, MD, FRCA*. Management of Muscle

Relaxation With Rocuronium and Reversal With Neostigmine or Sugammadex Guided by Quantitative Neuromuscular Monitoring. *Anesthesia & Analgesia* (>):10.1213/ANE.0000000000006511, May 12, 2023

Sherpa JR, Donahue L, Tsai T, Nguemeni Tiako MJ. The Planetary Benefit of Suspending USMLE Step 2 CS: Estimating Carbon Emissions Associated with US Medical Students' Travel to Testing Centers. *Yale J Biol Med.* 2023;96(2): forthcoming June 2023.

Murphy BL, **Pereslucha A**, Boughey JC. Current Considerations in Surgical Treatment for Adolescents and Young Women with Breast Cancer. *Healthcare.* 2022; 10(12):2542.

Pereslucha AM, Wenger DM, Morris MF, Aydi ZB. Invasive Lobular Carcinoma: A Review of Imaging Modalities with Special Focus on Pathology Concordance. *Healthcare.* 2023; 11(5):746.

Department Active Research Projects 2022-2023

County health ranking and bariatric surgery outcomes: a multi-center study

Evaluation of angioembolization for liver injuries with CT identified blush: A Western Trauma Association Multicenter Study

Infection following penetrating brain injury- a multicenter investigation

ACS/ASE medical student simulation-based surgical skills curriculum

Superiority of cervical spine clearance guidelines in blunt trauma patients

Unplanned extubations in the ICU

Antibiotic use in facial fracture post injury

Creation and validation of a diagnostic score for early identification of patients presenting with necrotizing fasciitis

A prospective, multicenter, randomized, double-blind, placebo-controlled large simple trial evaluating the use of BE1116 to improve survival in patients with traumatic injury and confirmed or suspected acute major bleeding predicted to receive a large volume blood product transfusion

Same-day colectomy: is it safe for patients?

Case review: laparoscopic cholecystectomy in patients with cardiogenic shock

Review of patients with cardiogenic shock undergoing bariatric surgery

NSAIDS after sleeve surgery

Dietary compliance after bariatric surgery and its correlation with postoperative complications and weight loss

Do experience of pain and 30-day surgery outcomes differ in bariatric surgery patients treated with narcotic vs. non-narcotic pain management protocols?

Autofluorescence of parathyroid glands during parathyroid and thyroid surgery - a multicenter redcap data registry

BEACON: BANNER ENDOCRINE AND ANALYTICAL COLLABORATIVE NETWORK

A pilot study to improve clinical and operational efficiency, quality, and safety in intraoperative surgical care through introduction of routine intra-corporeal video-based capture and analyses (with use of Theator Inc. technology)

Students' perception of robotic assisted surgery

Surgical resident wellness program

Reverse Trendelenburg position during laparoscopic surgery may be associated with higher incidence of venous thromboembolism

Current status of simulation curricula in general surgery residency training programs

The value of a structured communication course in surgery resident training

"Differences in MIS perception among programs with a formalized curriculum"

Incidence of bile duct injury in patients undergoing robotic cholecystectomy with firefly: a retrospective chart review

Retrospective analysis of patient demographic and relative impact on surgical outcomes in metropolitan Phoenix

The effect of higher protein dosing in critically ill patients: a multicenter registry-based randomized trial (The EFFORT Trial)

COVID-19: surgical implications study

Department Publications 2022-2023

Cardiothoracic Surgery

Arabía FA, Murray CF, Cantor R, Deng L, Gopalan R, Amabile O, Kalya A, **Tasset MR, Colón MJ**, Smith R, Kirklin JK. Heart Transplant Outcomes After Total Artificial Heart. *Transplant Proc.* 2023 Jul 13:S0041-1345(23)00411-6. doi: 10.1016/j.transproceed.2023.05.020. Epub ahead of print. PMID: 37453855.

Al Turk AA, Gideon PA, **Colon M**, Eng MH. Hybrid repair of left ventricle pseudoaneurysm utilizing a transapical and transeptal approach. *Cardiovasc Revasc Med*. 2023 Jun 1:S1553-8389(23)00208-7. doi: 10.1016/j.carrev.2023.05.017. Epub ahead of print. PMID: 37290992.

Russo MJ, Thourani VH, Cohen DJ, Malaisrie SC, Szeto WY, George I, Kodali SK, Makkar R, Lu M, Williams M, Nguyen T, Aldea G, Genereux P, **Fang HK**, Alu MC, Rogers E, Okoh A, Herrmann HC, Kapadia S, Webb JG, Smith CR, Leon MB, Mack MJ. Minimally Invasive Versus Full Sternotomy for Isolated Aortic Valve Replacement in Low-Risk Patients. *Ann Thorac Surg*. 2022 Dec;114(6):2124-2130. doi: 10.1016/j.athoracsur.2021.11.048. Epub 2021 Dec 24. PMID: 34958771.

Colorectal Surgery

Patel M, **Kim E**, Zhou W, Ratuapli S. Angiolipoma of the Colon: A Rare Cause of Gastrointestinal Bleeding. *Case Rep Gastroenterol*. 2022 May 10;16(2):290-294. doi: 10.1159/000524495. PMID: 35814793; PMCID: PMC9209953.

General Surgery

Kano D, Hu C, Thornley CJ, Cruz CY, **Soper NJ**, **Preston JF**. Risk factors associated with venous thromboembolism in laparoscopic surgery in non-obese patients with benign disease. *Surg Endosc*. 2023 Jan;37(1):592-606. doi: 10.1007/s00464-022-09361-0. Epub 2022 Jun 7. PMID: 35672502.

Seymour NE, Nepomnayshy D, De S, Banks E, Breitkopf DM, Campagna R, Gomez-Garibello C, Green I, Jacobsen G, Korndorffer JR Jr, Minasi J, Okrainec A, Matthew Ritter E, Sankaranarayanan G, Schwaitzberg S, **Soper NJ**, Vassiliou M, Wagner M, Zevin B. What are essential laparoscopic skills these days? Results of the SAGES Fundamentals of Laparoscopic Surgery (FLS) Committee technical skills survey. *Surg Endosc*. 2023 Jul 30. doi: 10.1007/s00464-023-10238-z. Epub ahead of print. PMID: 37517042.

Bariatric Surgery

Dino LC, El Chaar M, **Husain FA** et al. American Society for Metabolic and Bariatric Surgery review on fasting for religious purposes after surgery. *SOARD* 2022 July; 18(7):861-71.

Worrest T, Malibiran C, Welshans J, Dewey E, **Husain FA**. Marijuana use does not affect weight loss or complications after bariatric surgery. *Surg Endo* 2022 Sep; 36(9):6931-6936. doi: 10.1007/s00464-022-09038-8 PMID: 35024935

Rajeev Y, Mahawar K, (Collaborator **Husain, FA**) Handling the COVID-19 pandemic and its effects on Bariatric surgery practice: An analysis of the GENEVA study database. *Obesity Surgery* 2022 Dec; 32(12):3908-3921. doi: 10.1007/s11695-022-06267-7. PMID: 36282429

Clapp B, Ghanem OM, **Husain FA** et al. Duodenal switch without vs with laparoscopic cholecystectomy: a perioperative risk comparative analysis of the MBSAQIP database (2015-2019). *Surg Endo* 2023 Jan; 37(1):219-224. doi: 10.1007/s00464-022-09477-3. PMID: 35918551

Thurston T, Dolan J, **Husain FA**, Stroud A, Funk K, Borzy C, Zhu X. Assessment of muscle activity and fatigue during laparoscopic surgery. *Surg Endo* 2022 Sep 36(9):6672-6678. doi: 10.1007/s00464-021-08937-6 PMID: 35034217

Kermansaravi M, Pramar C, **Husain FA**, Zundel N et al. Best practice approach for redo-surgeries after sleeve gastrectomy; an experts modified delphi consensus. *Surg Endo* 2023 Jan 24. doi: 10.1007/s00464-023-09879-x. Epub ahead of print. PMID: 36693918

Tomaiko E, **Husain FA**, Su W. Weight loss and atrial fibrillation: a review. *Current Opinion Cardiology* 2023 Jan 1; 38(1):6-10. doi: 10.1097/HCO.0000000000001004 PMID: 36598444

Ghanem O, Lloyd JA, **Husain FA** et al. Management of abdominal wall hernias in patients with severe obesity. *Surg Endo* 2023 July 24 epub ahead of print. doi: 10.1007/s00464-023-10312-6. PMID: 37488442

Landin M, Yoo J. Ventral hernias. *Fundamentals of Hernia Radiology*. Springer Cham; 2023: 157-173. <https://doi.org/10.1007/978-3-031-21336-6>

Trauma Surgery

Samuels JM, Carmichael H, McIntyre R Jr, Urban S, Ballow S, Dirks RC, Spalding MC, LaRiccia A, Farrell MS, Stein DM, Truitt MS, Grossman Verner HM, Mentzer CJ, Mack TJ, Ball CG, Mukherjee K, Mladenov G, Haase DJ, Abdou H, Schroepel TJ, Rodriguez J, Nahmias J, Tay E, Bala M, **Keric N**, **Crigger M**, Dhillon NK, Ley EJ, Egodage T, Williamson J, Cardenas TC, Eugene V, Patel K, Costello K, Bonne S, Elgammal FS, Dorlac W, Pederson C, Burlew CC, Werner NL, Haan JM, Lightwine K, Semon G, Spoor K, Velopulos C, Harmon LA. An observation-first strategy for liver injuries with "blush" on computed tomography is safe and effective. *J Trauma Acute Care Surg*. 2023 Feb 1;94(2):281-287. doi: 10.1097/TA.0000000000003786. Epub 2022 Sep 23. PMID: 36149844.

Schellenberg M, Koller S, de Moya M, Moore LJ, Brown CVR, Hartwell JL, Inaba K, Ley EJ, **Keric N**, Peck KA, Fox CJ, Rosen NG, Weinberg JA, Coimbra R, Martin MJ. Diagnosis and Management of Traumatic Rectal Injury: A Western Trauma Association Critical Decisions Algorithm. *J Trauma Acute Care Surg*. 2023 Jul 5. doi: 10.1097/TA.0000000000004093. Epub ahead of print. PMID: 37405856.

Endocrine Surgery

Sehnm L Jr, Noureldine SI, Avci S, Isiktas G, Elshamy M, Saito Y, Ahmed AHA, Tierney HT, Trinh LN, Karcioğlu AS, Cheung AY, Otremba M, Krishnamurthy V, Heiden K, Jin J, Shin J, Siperstein A, Zafereo M, Tufano RP, Randolph GW, Kebebew E, **Milas M**, Duh QY, Berber E. A multicenter evaluation of near-infrared autofluorescence imaging of parathyroid glands in thyroid and parathyroid surgery. *Surgery*. 2023 Jan;173(1):132-137. doi: 10.1016/j.surg.2022.07.057. Epub 2022 Oct 28. PMID: 36511281.

Bletsis P, Metzger R, Nelson JA, Gasparini J, Alsayed M, **Milas M**. A Novel Missense *CASR* Gene Sequence Variation Resulting in Familial Hypocalciuric Hypercalcemia. *AACE Clin Case Rep*. 2022 May 17;8(5):194-198. doi: 10.1016/j.aace.2022.05.002. PMID: 36189134; PMCID: PMC9508602.

Mentorship

The Department of Surgery inaugurated a faculty mentorship program as part of the university-wide commitment to support faculty career development and opportunities for personal growth. The activities for the 2022-2023 academic year included the following highlighted events and initiatives.

- **Mentorship Resource Library**
Repository available to faculty and residents with access to nearly 200 discreet resources (links, publications, webinars, etc) that are useful for personal and career development.
- **CHIM (Cultivating Happiness in Medicine) Discussion Dinners**
Sponsored by Banner Health Wellness Initiatives <https://www.healthleadersmedia.com/clinical-care/banner-health-chief-clinical-officer-i-am-thankful-our-healthcare-heroes>

➤ **“Changing What you Do, Trying Something New”**

Dr. Ara Feinstein (Physician Executive, Banner University Medical Group)
Surgeons as Executives/Surgeons as ACS Leaders

Dr. Andrew Resnick (CMO and CQO, The Chartis Group)
Surgeons as Consulting Firm Leaders

Dr. Jeremy Goodman (CMO, Banner-University Medical Center)
Surgeons as CMO

Dr. Paula Termuhlen (Dean, Western Michigan University Homer Stryker M.D. School of Medicine)
Surgeons as Medical School Deans

Dr. Julie Wynne (Associate Professor, Department of Surgery)
Surgeons as Frontline Global Health Ambassadors

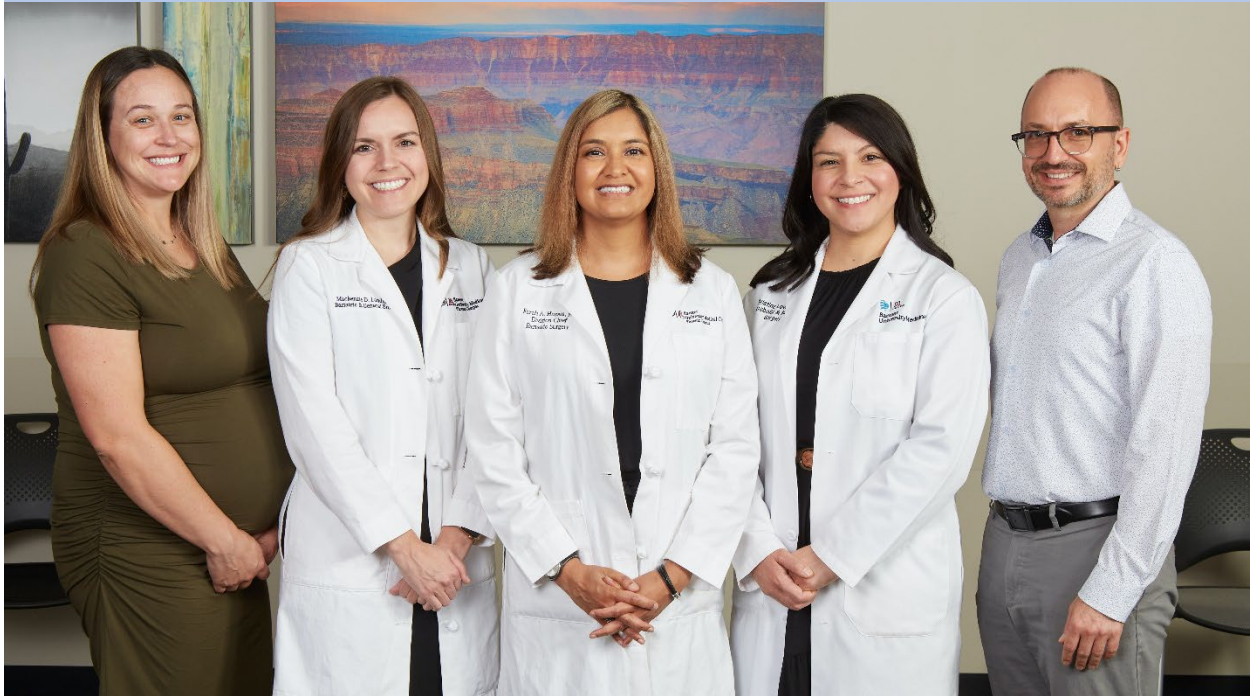
➤ **“Building a Version for a Healthier You: Striking Balance in My Life”**

Attendees were members of the Departments of Surgery, Medicine and Radiology

- Formal opportunity to identify and facilitate Mentor-Mentee partnerships, mentorships and sponsorships <https://facultyaffairs.arizona.edu/mentor-institute>



Division of Bariatric Surgery



Pictured left to right: Anna Hershkowitz NP, MacKenzie Landin MD, Farah Husain MD, Chief, Christine Lovato MD, JR Evans PsychD.

Not pictured: Melissa Davis NP, Margaret O'Brien RD, Chirstina Maffiola RD

The division of Bariatric Surgery has continued to see growth and change. This academic year, Dr. Farah Husain joined the University of Arizona College of Medicine Phoenix as the Division Head of Bariatric Surgery.

Our division is composed of: Farah Husain MD, MacKenzie Landin MD, Christine Lovato MD, Melissa Davis NP, JR Evans PsychD, Anna Hershkowitz NP. In addition to our providers, we have an amazing group of dieticians (Margaret O'Brien RD and Christina Maffiola RD) and behind-the-scenes staff that support the treatment of patients with obesity.

Through academic year 2021-2022, the division performed 425 bariatric surgeries and from 2022-2023, 484 bariatric cases were completed. The program introduced the biliopancreatic diversion- duodenal switch (BPD-DS) procedure and continue to do a significant volume of complex revisional surgery. Banner University Medical Center-Phoenix (BUMCP) is the only adolescent-accredited bariatric program in the state of Arizona and we are able to offer comprehensive care to adolescents with obesity. This includes adding a secure behavioral health clinical space for ongoing behavioral support and family counseling.

The team has been active in local and national organizations. Dr. Farah Husain serves on the Executive Council of the American Society of Metabolic and Bariatric Surgery (ASMBS) and is the co-chair of the

Metabolic and Bariatric Surgery committee for the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES). Dr. Christine Lovato is the co-chair of the ASMBS communications committee. Dr. MacKenzie Landin was involved in the hands-on laparoscopic common bile duct technique education course at the SAGES annual meeting and locally at BUMCP. All of our faculty presented at the annual ASMBS meeting and have been involved in local and regional presentations on obesity treatment.

This year came with new certifications and awards. Dr. MacKenzie Landin successfully completed the Obesity Medicine board exam and is now a Diplomate of the American Board of Obesity Medicine (DABOM). She was inducted as a Fellow of the American Board of Surgery (FACS) and received the University of Arizona Phoenix Integrated Surgical Residency (PISR) Award for Teaching Excellence. Dr. Husain and Dr. Lovato completed the American Board of Surgery Focused Practice Designation (FPD) in Bariatric Surgery. Melissa Davis completed the Advanced Practice Provider Assessment Based Certificate through ASMBS along with her renewing her Certified Bariatric Nurse (CBN) designation.

The Bariatric Surgery division participated in a new clinic launch in February 2023 at Banner Health Center *plus-* Arcadia located at 4200 E Camelback Rd, Phoenix, AZ. This site will be the primary location for the new Obesity Medicine clinic which will work hand-in-hand with Bariatric Surgery to offer comprehensive healthcare options and treatments to patients with obesity. The clinic now has 1 surgeon, 3 APPs, 1 RD, and a psychologist seeing patients in the multidisciplinary space. This clinic houses our secure behavioral health space.

The Highest and Best Use (HBU) Grant program offered an exciting opportunity for Bariatric surgery as Dr Husain and Dr Rodd Tung, Chair of Cardiology, pitched the “Cardiometabolic clinic”. The proposal was awarded \$700,000 of funding to build the first Cardiometabolic clinic in Banner. We envisioned comprehensive, connected care for patients with both heart disease and obesity. Currently, patients navigate through a series of appointments, at varied locations, in an attempt to optimize their health. This can lead to a loss of follow up and confusion about plans between different care teams. With the funding received through the HBU grant, the clinic will be able to co-locate obesity medicine, bariatrics, sleep medicine, endocrinology, and cardiology, allowing patients to be followed closely and offered cohesive care in one location. Other subspecialties will be available to see the patients to assist with optimization as well, such as hepatology and pulmonology. The patients will be tracked to follow outcomes and care coordination by a team of MA, RN, and research coordinators.

Research continues to grow in bariatric surgery. The group is beginning participation in multiple multisite trials. The launch of the TheatOR program began this summer and will help understand how AI can help with OR efficiency and technique feedback/improvement. The ongoing opioid study will shed light on how patients respond to an opioid-free postop course and has already helped with safe opioid prescription practices. Dr Laurel Gieseke, recent graduate of University of Arizona College of Medicine-Phoenix presented a poster discussing laparoscopic cholecystectomy in the setting of CHF induced ischemic cholangiopathy at SAGES. We have welcomed multiple residents, who are aspiring MIS surgeons, into our research circle and look forward to their contributions.

Finally, this year was monumental as the AMA passed a resolution about obesity as a disease that should have coverage for treatments. Dr Lovato serves as the Arizona State Access to care Representative (STAR) and continues to work for broad treatment coverage. We welcomed Jenny Cesena as our RN navigator, and she has been setting up meetings with insurance medical directors to discuss barriers to coverage and care. As a division, we are devoted to access to care for all patients.

We ask that you support the Treat and Reduce Obesity Act (TROA) so patients will have insurance coverage for medications, therapy, and surgery to treat obesity.

The BUMCP Bariatric Surgery Division hosted the inaugural Phoenix Walk from Obesity held on October 14, 2023 at Papago Park, Phoenix, AZ.



We are excited about the new ideas, innovations, and growth this year and thank you for your ongoing support.

Division of Endocrine Surgery



FACULTY

Mira Milas MD, FACS

Professor and Chief of Endocrine Surgery
Vice Chair for Academic Affairs
Executive Director, APEX

Rosemarie Metzger MD, FACS

Associate Professor
Associate Clerkship Director
Endocrine Surgery Clinics Director

Jon Alex Nelson DO, FACS

Assistant Professor
Associate Program Director
General Surgery Residency

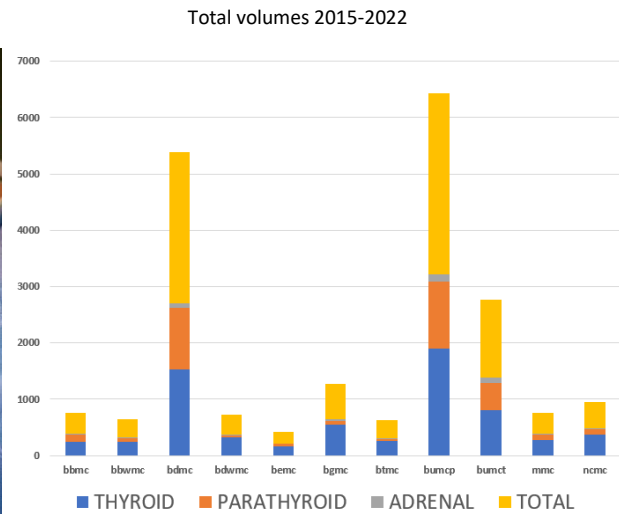
Pictured left to right: Rosemarie Metzger MD, Mira Milas MD, Chief, Jon Alex Nelson DO



Left to right: Drs. Jon Alex Nelson, Leslie Swafford, Mira Milas, Takis Bletsis, Rose Metzger.
Dr. Swafford (Intern of the Year) is currently a PGY3 General Surgery Resident.

CLINICAL

- Comprehensive endocrine surgery care of thyroid, parathyroid, adrenal and hereditary endocrine conditions
- Highest endocrine surgery case numbers in all 30 hospitals in Banner Health system annually (500 annually)
- Top NPS scores in patient satisfaction surveys
- Referral center for complex and re-operative surgery, representing 40% of new patient referrals.
- Multidisciplinary clinics and tumor board in conjunction with Endocrinology (Banner Phoenix-wide),
Carl T. Hayden Phoenix VA, and Banner M.D. Anderson Cancer Center



HONORS

- **Dr. Metzger** : AAES Endocrine Surgery Identity Committee, Winner of AAES Interesting Case Session 2023, WEA Board of Directors, Faculty Award for Innovation
- **Dr. Milas**: AAES Vice President (2022-2023), Association of Women in Surgery Keynote Address (Southwest Meeting), Faculty Award for Research, University Promotion & Tenure Committee Service (7 years)
- **Teaching Awards**: Faculty Award for Education (**Dr. Nelson**), Resident Teacher of the Year Award (**Dr. Bletsis**)
Clerkship of the Year Award (**Endocrine Surgery**)



RESEARCH

- BEACON (“Banner Endocrine and Analytical Collaborative Network”): IRB-approved registry of endocrine diseases (2016-present with accrual of 600 participants)
- Collaboration with Endocrinology (Dr. Mahmoud Alsayed) and UA-Phoenix Molecular Discovery Core (Dr. Tim Marlowe, Dr. Ron Nelson, <https://phoenixmed.arizona.edu/mdc>)

- Membership in A5 Adrenal Alliance international consortium

- Publications

Panagiotis Bletsis MD, Rosemarie Metzger MD, Jon Alex Nelson, DO, Mahmoud Alsayed MD, Justin Gasparini BS, CGC, and Mira Milas MD. A Novel Missense CASR Gene Mutation Resulting In Familial Hypocalciuric Hypercalcemia *AACE Clinical Case Reports* 2022 Oct; 8(5): 194-198
<https://doi.org/10.1016/j.aace.2022.05.002>

Ludovico Sehnem jr, MD; Salem I. Noureldine, MD; Seyma Avci, MD; Gizem Isiktas, MD; Mohammed Elshamy, MD; Amr H. A. Ahmed, MD; Michael Otremba; Mark Zafereo, MD; Ralph P. Tufano, MD, MBA; Gregory W. Randolph, MD; Electron Kebebew, MD; **Mira Milas, MD**; Quan-yang Duh, MD; Eren Berber, MD, MBA **A Multicenter Evaluation of Near-Infrared Autofluorescence Imaging of Parathyroid Glands**

in Thyroid and Parathyroid Surgery. *Surgery* 2023 Jan;173(1):132-137. doi: 10.1016/j.surg.2022.07.057

NEW INITIATIVES

- Radiofrequency Ablation (RFA) of Thyroid Nodules available in ambulatory clinic in 2023
- Neoadjuvant use of targeted therapies to improve resectability of advanced thyroid cancers: novel approach enhances outcomes for patients with differentiated and anaplastic cancers
- Developed patient care facilitators: “outpatient-in-a-bed” nursing unit, pre-anesthesia testing center at BUMCP hospital, video education series for patients undergoing endocrine surgery
- Initiated Summer Medical School preceptorship program for pre-med college students at University of Arizona College of Medicine-Phoenix.

Section of Gastrointestinal and General Surgery



Pictured left to right: Jason Weiss MD, Priya Rajdev MD, Nathaniel Soper MD, Chair, Jon Alex Nelson DO, Jennifer Preston MD, Jerome Manson MD *Not pictured: Eugene Kim, MD*

This group of faculty is comprised of surgeons whose primary areas of interest are foregut (gastro-esophageal), colorectal, abdominal wall and other general surgery (largely gallbladder disease and hernias).

In foregut surgery, Drs. Jennifer Preston and Priya Rajdev have high-volume practices involving hiatal hernia repair, anti-reflux operations and esophagectomy for malignant disease. These complex cases are performed using the da Vinci robot system.

General surgeons include Drs. Preston and Rajdev, along with Drs. Nathaniel Soper and Jon 'Alex' Nelson. Dr. Nelson also performs endocrine surgery.

Drs. Rajdev and Nelson recently formed a consortium along with our acute care surgeons to manage complex abdominal wall defects utilizing advanced abdominal wall reconstruction techniques.

There are three colorectal surgeons in this section—Drs. Eugene Kim, Jason Weiss and Jerome Manson. Dr. Manson performed his general surgery residency at our institution, and we were fortunate to recruit him back after completing a colorectal fellowship at the Mayo Clinic in Rochester, MN. These individuals perform complex colonic, rectal and anorectal surgery as well as colonoscopy, for both benign and malignant disease. They are affiliated with Banner-MD Anderson.

Robotic surgery is playing an increasingly important role in the performance of G.I. and General Surgery. Volumes of robotic surgery continue to increase, and BUMCP recently became the Banner system's highest volume robotic center. Drs. Preston and Kim both are acknowledged experts in robotic surgery and play leadership roles in advancing robotic surgery nationally.

Section of Oral and Maxillofacial Surgery



Pictured left to right: Vishtasb Broumand DMD MD, Jack A. Buhrow DDS, Karel A. deLeeuw DDS, MD MBA, John Gillis, DMD

The division is currently recruiting for one active vacant post and is anticipating the need for a second a position in the near future. The OMS Department received 440 in state facility to facility transfer from July 2022 to June 2023. Our division is actively involved consulting for Banner's transplant programs, trauma service, general medical services , and the emergency room needs. Our long-term goals include increasing outpatient IV sedation experience at the BUMGP clinical site to enhance resident experience and meet accreditation standards. We're hoping to expand our physical presence on the Banner Desert campus so that the residents can be exposed to required pediatric oral maxillofacial surgery procedures and management. We are planning an increase in our national footprint with the commitment to scholarly activity including clinical research local, and national leadership positions, active involvement with the American Board of Oral Maxillofacial Surgery (ABOMS), the American College of Oral Maxillofacial Surgeons (ACOMS), and the American Association of Oral and Maxillofacial Surgeons (AAOMS). Our faculty currently serve as active reviewers for the Journal of Oral Maxillofacial Surgery (JOMS) with over 60 submissions reviewed.

Faculty

Karel A. deLeeuw, DDS, MD, MBA, FACS

Clinical Professor Surgery

OMS Clinical Director

Program Director Banner University Phoenix

Vishtasb Broumand, DMD, MD

Medical Director

Jack A. Buhrow, DDS, MS

Founder of the BUMGP OMS residency program
Previous Chair and Program Director
Director of TMJ surgery

Jack M Gillis, Lt. Col DMD

Former Director Dentistry U.S. Air Force Academy
Former Program Director Banner University

Oral Maxillofacial Surgery Residency Program



Residency by the numbers:

8 Categorical Residents
3 Non-categorical Residents

Destination of Chief Residents who graduated in June 2023:

Taylor Duckworth, DDS
Private Practice Nashville, Tennessee

Kunal Patel, DMD
General Fellowship St. Louis, Missouri

Pictured left to right: John Gillis DMD, Jack Buhrow DDS, Lori Warren Program Administrator, Karel deLeeuw DDS, MD, MBA

History

The residency in oral maxillofacial surgery is founded by Dr. Jack Buhrow, DDS, MS. in 2010. The program has graduated 19 American Board of Oral Maxillofacial Surgery certified surgeons. We currently have 11 residents in active training. Our residents logged almost 2000 major surgical cases in the last academic year.



Division of Trauma and Emergency Surgery



Pictured left to right (back row): Eric Petersen, MD, G Paul Dabrowski, MD, Peter Scanlon, NP
Pictured left to right (front row): Kelsey Hoidal, MD, Natasha Keric, MD, Chief, Allison Tompeck, MD, Jennifer Hanisch, NP, Ara Feinstein, MD

Not pictured: Corey Detlefs MD, Morgan Crigger MD, Jack He MD, Nirav Patel MD, Amy Sisley MD, Julie Wynne MD, Ashlee Jontz NP, Michael Berg NP, Emily Cova NP, Kristen Reid NP, Madison Warren NP

Members



Natasha Keric, MD, FACS
Division Chief and Trauma Medical Director
Associate Professor of Surgery
Fellowship: R Adams Cowley Shock Trauma Center
Areas of interest: Resuscitation, Emergent Ventral Hernia Management



Morgan Crigger, MD
Clinical Assistant Professor of Surgery
Fellowship: UT Southwestern/Parkland Health and Hospital System
Areas of Interest: Trauma and Acute Care Robotic Surgery



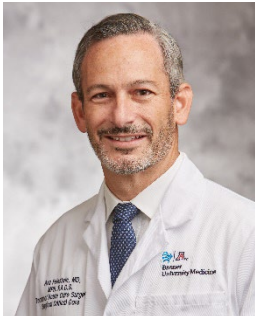
G. Paul Dabrowski, MD, FACS

Air Evac Medical Director
Clinical Associate Professor of Surgery
Fellowship: Tulane University and Charity Hospitals
Areas of Interest: Traumatic Injury, Prehospital Care



Corey Detlefs, MD, FACS

Past Chief of Staff
Clinical Professor of Surgery
Fellowship: UCSF Fresno Valley Medical Center
Areas of Interest: Rural Trauma



Ara Feinstein MD, MPH, FACS

Physician Executive, Banner University Medical Group
Associate Dean, Clinical Affairs
Associate Professor of Surgery
Fellowship: Ryder Trauma Center at Jackson Memorial Hospital
Areas of Interest: Healthcare Leadership, Value Based Care



Jack He, MD

Research Committee Chair
Assistant Professor of Surgery
Fellowship: University of Pittsburgh Medical Center
Areas of Interest: Geospatial Evaluation of Trauma Systems



Nirav Patel, MD, FACS

Physician Executive Surgical Specialties, Banner Medical Group
Medical Director, Surgical and Procedural Services
Clinical Associate Professor of Surgery
Fellowship: University of California–San Diego
Areas of Interest: Surgical Clinical Quality Improvement



Amy Sisley, MD, MPH, FACS

ASSET Course Director
Associate Professor of Surgery
Fellowship: Emory University Hospital
Areas of Interest: Surgical Education and Simulation



Allison Tompeck, MD

Medical Director, Trauma Surgical Intensive Care Unit
Clinical Assistant Professor of Surgery
Fellowship: UT Southwestern/Parkland Health and Hospital System
Areas of Interest: Surgical Critical Care, Antimicrobial Stewardship



Julie Wynne, MD, MPH, FACS

Associate Professor of Surgery
Fellowship: R Adams Cowley Shock Trauma Center, Baltimore, MD
Burn Surgery Fellowship: UC-Davis
Areas of Interest: Resident Wellness

New Faculty Announcements



Kelsey Hoidal, MD

Clinical Assistant Professor of Surgery

Fellowship: Surgical critical care fellowship, Northwestern University

Areas of Interest: Cardiac Critical Care, Surgical Education



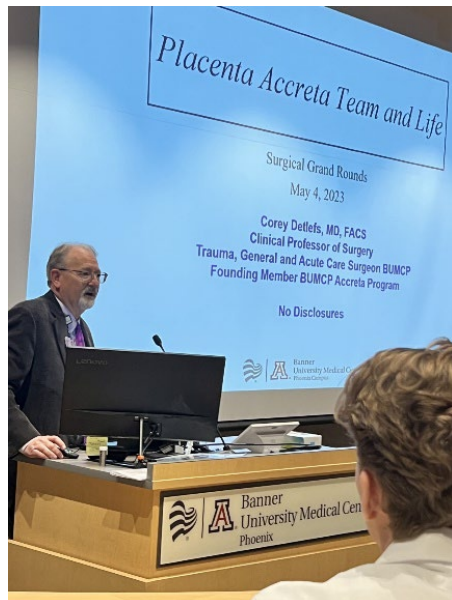
Eric Petersen, MD

Assistant Professor of Surgery University of Arizona COM-PHX

Fellowship: Surgical Critical Care, Stanford University

Areas of Interest: APEX, mass casualty in austere environments

Faculty Announcements



Retiring after 30 years of service and dedication; a Special Thank You to **Dr. Corey Detlefs** for his compassionate care of our patients and families in the Valley of the Sun community and beyond and for truly being an inspiration to so many!

Department of Surgery Grand Rounds
May 4, 2023

Division Initiatives on the Horizon



| | |
|----------------------------------------|-----------------------------------------------------------------------------|
| Clinical Service Line Expansion | Second Surgical ICU Service Abdominal Wall Reconstruction |
| Education | Surgical Critical Care Fellowship National Courses (FCCS, ASSET) |
| Market Share and Growth | Banner Outreach Program Trauma and Acute Care Robotic Surgery |
| Research | TAP TRIAL Geospatial Evaluation of Trauma Systems Research Fellowship |
| Trauma Program | 2024 Site Verification |
| Wellness | Division Strategic Retreat Division Holiday Party |

Trauma And Acute Care Robotic Program



Research News



Western Trauma Association Annual Meeting, March 2023
Dr. Keric "Adult Blunt Hepatic Injury Algorithm"
Dr. Zhou and Dr. He; "LEVEL ONE TRAUMA CENTER PROLIFERATION WORSENS PATIENT OUTCOMES"

Sponsored trials



The Division of Trauma is currently enrolled in the **industry sponsored** TAP trial to be conducted over 3 years and completed in 3Q2026. It is one of the **largest trauma trials** ever conducted to see if a blood clotting drug (Prothrombin Complex Concentrate), given to the patient soon after arrival in the emergency department, can improve survival in patients with traumatic injury and acute major bleeding. This international trial will involve up to 8000 patients across 140 hospitals.

PI: Natasha Keric, MD Sub PI: Morgan Crigger, MD

2023 Publications

1. Schellenberg M, Koller S, de Moya M, Moore LJ, Brown CVR, Hartwell JL, Inaba K, Ley EJ, **Keric N**, Peck KA, Fox CJ, Rosen NG, Weinberg JA, Coimbra R, Martin MJ. Diagnosis and Management of Traumatic Rectal Injury: A Western Trauma Association Critical Decisions Algorithm. *J Trauma Acute Care Surg.* 2023 Jul 5.
2. Rašić, G., Parikh, P.P., Wang, M., **Keric, N.**, Jung, H.S., Ferguson, B.D., Altieri, M.S., & Nahmias, J. (2023). The silver lining of the pandemic in surgical education: virtual surgical education and recommendations for best practices. *Global Surgical Education - Journal of the Association for Surgical Education*, 2.

Upcoming Presentations

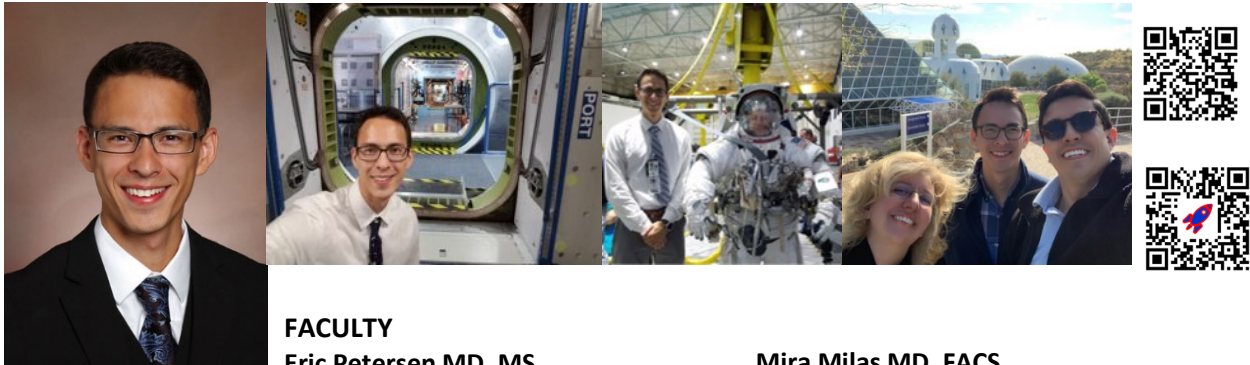
AAST Annual Meeting September 2023

Aryan N, Grigorian A, Tay-Lasso E, etal, **Keric N**, **Crigger M**, etal, Nahmias J. High-Grade Liver Injuries with Contrast Extravasation Managed Initially with Interventional Radiology Versus Observation: A Multicenter Study

Papers accepted for publication

1. Allatar Z, **Keric N**. Evaluation of Abdominal Surgeries. *Surgical Clinics*
2. Alarhayem A, Alirhayim Z, **Keric N**. Monitoring of the Trauma Patient. *Acute Care Surgery and Trauma*

APEX AEROSPACE MEDICINE AND SURGERY



FACULTY

Eric Petersen MD, MS

Assistant Professor and Flight Surgeon
Trauma and Critical Care Surgery
Program Director, APEX

Mira Milas MD, FACS

Professor and Chief of Endocrine Surgery
Vice Chair for Academic Affairs
Executive Director, APEX

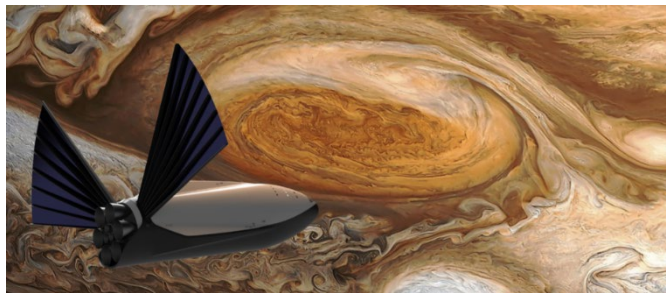
Mission Statement

Addressing the challenges of deep space medical and surgical care and adapting the solutions to help everyone.

HISTORY

The **Arizona Program for Exploration Medicine and Surgery (APEX)** was created to address the challenges of deep space procedural and critical care. Aerospace medicine is a field historically dedicated to keeping healthy individuals optimized in abnormal environments, such as at the International Space Station. The reality is that commercial long duration space flight, including deep space missions, will need aerospace medicine to include the care of illness in abnormal environments. This requires tackling knowledge and training gaps in surgical, procedural and critical care during spaceflight or on surfaces of non-terrestrial orbital bodies like the Moon and Mars.

APEX is designed to research and solve these inevitabilities, to help fill the coming need for physicians trained in commercial spaceflight operations and to contribute to preparing these physicians to handle emergency medical and surgical care on long duration space flights. This 1-year training program is referred to as the “APEX Aerospace Medicine and Surgery Fellowship.” It is the first fellowship of this kind in the USA.



To accomplish these notable goals, APEX has partnered with the largest commercial space provider, SpaceX. Joining the collaboration with **SpaceX** are the **University of Arizona** (via the College of Medicine – Phoenix, Biosphere 2 and Space Science Institute) and **Banner Health**. These three entities (Banner, UA, SpaceX) formed a tripartite contractual agreement in 2022 to provide the experiences necessary for the APEX Fellowship. This unique program trains physicians in the fundamentals of traditional aerospace medicine while providing additional training in austere medical and surgical care.

UNIVERSITY OF ARIZONA SPACE INSTITUTE (ASI) and SPACEX

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| <ul style="list-style-type: none"> • UA Space Institute: https://space.arizona.edu/ The UA has a distinguished track record of pioneering contributions to space, including all original NASA missions and Apollo moon landings and, more recently, the Webb Telescope design and spacecraft landing on asteroid Benu. APEX is a member of the ASI network. | <ul style="list-style-type: none"> • UA Biosphere 2: With CHaSE (Center for Human Space Exploration directed by Trent Tresch, BS) and SAM (Space Analog for Mars directed by Kai Staats, MS), APEX partners to explore spacesuit design and model medical scenarios in a hi-fidelity, hermetically sealed and pressurized habitat that is as close to life on Mars apart from low gravity or freezing temperatures. https://biosphere2.org/person/trent-tresch and https://biosphere2.org/research/research-initiatives/sam-mars-analog and https://samb2.space |
| <ul style="list-style-type: none"> • SpaceX: https://www.spacex.com/ The APEX fellow has the opportunity to gain hands-on training in the commercial practice of aerospace medicine at SpaceX Hawthorne (Los Angeles, CA), SpaceX Starbase (Boca Chica, TX) and Kennedy Space Center (Cape Canaveral, FL). | |

APEX AEROSPACE MEDICINE AND SURGERY

DR. ERIC PETERSEN, DIRECTOR

- Board certified in Aerospace Medicine (UTMB)
- Board certified in General Surgery (UA)
- Board Eligible Critical Care Medicine (Stanford)
- Aerospace Engineering (BS, U Colorado)
- Numerous teaching awards & innovations, including Stanford Biodesign Certification
- [Publications](#)

Petersen E, Pattarini JM, Mulcahy RA, Beger SB, Mitchell MR, Hu YD, Middleton KN, Frazier W, Mormann B, Esparza H, Asadi A, Musk ER, Alter G, Nilles E, Menon AS. **Adapting Disease Prevention Protocols for Human Spaceflight During COVID-19.** *Aerosp Med Hum Perform.* 2021 Jul 1;92(7):597-602. doi: 10.3357/AMHP.5832.2021. PMID: 34503635.

Bartsch YC, Fischinger S, Siddiqui SM, Chen Z, Yu J, Gebre M, Atyeo C, Gorman MJ, Zhu AL, Kang J, Burke JS, Slein M, Gluck MJ, Beger S, Hu Y, Rhee J, **Petersen E,** Mormann B, Aubin MS, Hasdianda MA, Jambaulikar G, Boyer EW, Sabeti PC, Barouch DH, Julg BD, Musk ER, Menon AS, Lauffenburger DA, Nilles EJ, Alter G. **Discrete SARS-CoV-2 antibody titers track with functional humoral stability.** *Nat Commun.* 2021 Feb 15;12(1):1018. doi: 10.1038/s41467-021-21336-8. PMID: 33589636; PMCID: PMC7884400.



Dr. Eric Petersen as a SpaceX Flight Surgeon (black scrubs at right) medically supported the historic landing on August 2, 2020 of Astronaut Bob Behnken (Colonel, USAF, PhD), Joint Operations Commander of SpaceX Crew Dragon. Leading this effort in 2020 was SpaceX Medical Director Dr. Anil Menon, who is now part of the NASA astronaut corps preparing for the Artemis lunar landing mission. Dr. Menon and Dr. Petersen also supported the historic launch on May 30, 2020. <https://www.nasa.gov/press-release/nasa-astronauts-launch-from-america-in-historic-test-flight-of-spacex-crew-dragon>; <https://www.youtube.com/watch?v=A1pB0gR9gWE>



DR. KALEIGH STABENAU

- Inaugural APEX Fellow (2023-2024)
- Board eligible in Otolaryngology (MCW)
- AOA medical graduate (MD, University of Illinois)
- Summa Cum Laude undergraduate (Bradley U)
- Private Pilot Certificate

“This fellowship offers a unique opportunity to combine my two passions: space and surgery. I will be around similarly passionate people, all working towards a vision of the future that involves humans boldly going where no one has gone before. The next phase in human space exploration can only be achieved through teamwork, ingenuity, and ambition. Only then can we manifest the future envisioned by Star Trek; only then can we turn fiction into fact. I hope to use my skills and passion to contribute to this mission.”

APEX INITIATIVES and COLLABORATORS

- APEX <https://phoenixmed.arizona.edu/apex> and <https://www.apexmedicineandsurgery.com>
- BannerAir™
- MedLink And MedAire <https://www.medaire.com/about/about-medaire>
- The Billings Clinic, Montana (Dr. Gordon Riha, Site Director)
- Banner – University Medical Center Phoenix <https://phoenixmed.arizona.edu/banner>
- SpaceX: <https://www.spacex.com/>
- UA Simulation Center/Ultrasound Training <https://phoenixmed.arizona.edu/about/videos/welcome-center-simulation-and-innovation>





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