

April 11, 2022



CTS INSPIRATIONS

CTS NEWS

President's Message

We had a successful IN-PERSON annual educational CME conference on March 11-13 in Monterey! It was wonderful to see so many new and familiar faces again. Some of the meeting highlights included the wellness and career development panelists discussion, the fellow's poster competition, and the women in PCCM event. I would also like to congratulate Dr. Shazia Jamil (Scripps Clinic and Clinical Associate Professor of Medicine at UCSD), who not only received the CTS Clinician of the Year Award but is also ATS Outstanding Clinician of the Year as well! I would also like to thank the conference co-chairs Dr. Gaurav Singh and Kristina Kudelko, planning committee, faculty, and our executive office for executing a memorable event. On behalf of CTS, we are appreciative of our members and conference attendees who have supported CTS and particularly during COVID-19 pandemic. We look forward to having another successful meeting in 2023.



Sincerely

A handwritten signature in black ink that reads "Michelle Cao".

Michelle Cao, DO
Stanford University

EDITOR'S NOTE

Above all - support other women, not just in word but in action

Tisha Wang, MD
2022 CTS Woman of the Year

In honor of Women's History month, CTS created a new award this year, recognizing an Outstanding Woman of the Year who will be our nominee for the ATS Elizabeth Rich award. Led by Dr. Jessica Goggin, the nominating committee selected Dr. Tisha Wang to be the inaugural awardee. In addition, each state chapter also selects an Outstanding Clinician of the Year. This year's CTS Outstanding Clinician of the year, Dr. Shazia Jamil was also chosen to be ATS' Clinician of the Year! We are thrilled and honored to be working with such immensely talented women.

Also, please check out the wonderful overview of CPET by Dr. Sanville at UC Davis, Part I of a planned two part series.

Our "Getting to know you" series continues and features Dr. Vipul Jain, Immediate Past President and all around wonderful human being.

Finally, don't forget to check out the *Southwest Journal of Pulmonary, Critical Care & Sleep* (SJPCCS) links at the end of this newsletter from our Arizona colleague, Dr. Rick Robbins. *The Southwest Journal of Pulmonary and Critical Care has changed its name to the Southwest Journal of Pulmonary, Critical Care & Sleep. The change was made because of our increasing number of sleep submissions. Our case of the month was a case of thrombotic thrombocytopenic purpura (TTP) which present as a transient ischemic attack (TIA) in a Spanish speaking patient. The image of the month is a foreign body within the airway, in this case a pledget apparently from a previous foregut cyst resection. We also have a case presentation of cicatricial pemphigoid of the trachea where symptomatic improvement in the patient was achieved by laser ablation bronchoscopy of the pemphigoid lesions in the trachea. Lastly, we have a news article from the Associated Press reporting a loss of trust in science reflected by an increase in COVID-19 and a decrease in COVID-19 vaccination in those counties that voted Republican in the last election.*

Cardiopulmonary Exercise Testing – What Is It and When to Order

Bradley Sanville, MD
 Assistant Professor of Medicine
 Division of Pulmonary, Critical Care, and Sleep Medicine
 University of California, Davis



Cardiopulmonary exercise testing (CPET) is a dynamic diagnostic modality that allows investigators to assess the coupling of cellular metabolism with cardiovascular, ventilatory, and gas exchange response to exertion. The typical hemodynamic and ventilatory responses to exercise are very predictable, and variations on this can point towards a variety of clinical conditions. Although a simplified view, the basic responses to exercise are noted in the Wasserman “gear wheel model,” and deficiencies at any point of the gas transport chain will result in abnormal findings (Fig. 1). Though many data points result from a CPET, the most important is the $\dot{V}O_2$ (oxygen uptake), which is a high-fidelity indicator of overall cardiopulmonary fitness. Its relationship to increasing work is consistent across healthy individuals resulting in its high level of predictability and reproducibility.

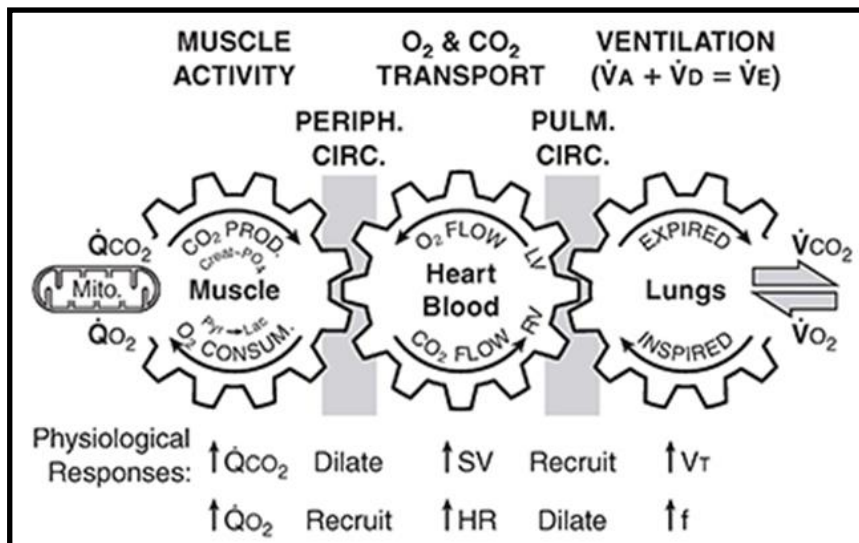


Fig 1: Gas transport mechanisms coupling cellular respiration to pulmonary respiration

A CPET can be performed in a variety of ways. Cycle ergometer and treadmill-based testing is certainly the most common, though hand or leg crank mechanisms can be used. Either incremental or

continuous ramp increase in workload is applied until maximal effort is reached (i.e. patient exhaustion) or testing is stopped by the observing medical professional for adverse intra-exercise findings (ex: ventricular tachycardia, excessive hypertension, etc.). The patient wears a face mask or mouth-piece with a sensor to measure breath-by-breath inspired and expired oxygen (O₂) and carbon dioxide (CO₂) levels along with respiratory rate and tidal volumes. In addition, heart rate, electrocardiogram, and peripheral oxygen saturations are measured continuously along with serial blood pressure measurements. Invasive CPET testing is less commonly performed but can include assessing blood lactate, O₂ and CO₂ concentrations, and rarely right heart catheterization measurements.

There are many applications for CPET across the spectrum of medicine and into high-level athletics. It has long been utilized by endurance athletes to tailor training regimens to maximize athletic effort using predominantly aerobic metabolism. Probably the most common reason for a CPET to be performed is for patients with unexplained dyspnea on exertion that is not readily explained by history, exam, and at rest diagnostic testing. At its best, a CPET can identify a discrete diagnosis for this unexplained dyspnea; though if not diagnostic, it can at least help narrow future diagnostic efforts by narrowing the likely etiology into cardiac, ventilatory, gas exchange, or peripheral non-cardiopulmonary origins. Some of the strongest evidence of use of CPET is grading severity of heart failure. Several aspects of CPETs are independent markers of mortality in heart failure and pulmonary arterial hypertension and help to indicate appropriate patients for consideration of advanced treatment options. At our institution, advanced heart failure physicians regularly order CPETs for both highly symptomatic patients to screen for transplant or LVAD and to establish and trend data for those with less advanced disease. A final area of evidence-based practice is the use of CPETs for pre-operative risk evaluation. The most common usage is for non-cardiac thoracic surgery, typically for lung cancer resection. This is mainly utilized in those with significantly reduced pulmonary function testing (FEV₁ and DLCO) and poor exertional tolerance and has been shown to predict peri-operative morbidity and mortality (Fig 2). Less commonly, it is used for abdominal surgery risk evaluation in high-risk patients.

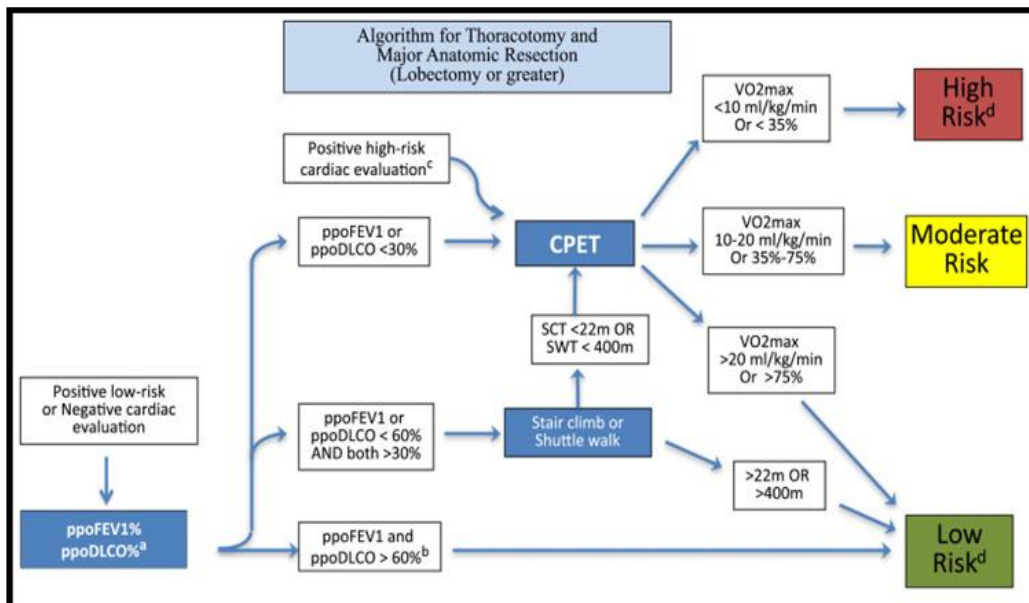


Figure 2: Lung cancer resection surgery risk algorithm

1. Sietsema, K, et al. Wasserman & Whipp's: Principles of Exercise Testing and Interpretation, 6th Edition. Lippincott Williams & Wilkins, 2021
2. Brunelli, A, et al. Physiologic Evaluation of the Patient with Lung Cancer Being Considered for Resectional Surgery: Diagnosis and Management of Lung Cancer, 3rd ed: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines. Chest, 2013;143(5):E166S-E190S

SHAZIA M. JAMIL, MD IS NAMED 2022 CTS OUTSTANDING CLINICIAN

Recognized by patients and families as a caring and dedicated healthcare provider and by his/her peers as having made substantial contributions to the clinical care of patients with respiratory disease. Nominations must reflect excellence in this area above all else.

The California Thoracic Society honors Dr. Shazia M. Jamil as its 2022 CTS Outstanding Clinician. She is a stellar clinician who is universally admired by her colleagues at Scripps where she works full-time in their ICU and Sleep Center not only for her compassionate, meticulous care but also dedication to her patients and peers. Her clinical excellence is matched by her zeal for education. Over the last 15 years, she has worked assiduously to develop curricula and conferences at the local, regional and national level aimed at teaching her peers, rainees and young faculty.

Dr. Jamil is always looking for ways to improve education and facilitate learning. At Scripps, she created multiple multi-disciplinary conferences bringing together critical care with hematology, cardiology and trauma. In recognition of her efforts, she was formally designated Head of Academic Affairs in 2018.

Within San Diego, she has been Co-Director of the UCSD Med School Pulmonary Skills course since 2003 and is responsible for curriculum development/faculty recruitment and teaching of 2nd year medical students.

She also founded and directs the San Diego Pulmonary, Critical Care and Sleep Medicine Case Conference which brings together academic and community physicians for quarterly didactics.

Because of her superb knowledge of pulmonary/critical care and sleep medicine combined with masterful organizational skills, she was asked to serve as conference chair for CTS' new Southern California conference in 2014 where she helped organize one of the first hands-on interventional pulmonary courses in our state. She went on to organize a successful ultrasound course in 2017 and again in 2019. Because her tireless efforts, CTS successfully converted the conference to an online format in Fall 2020, thereby creating a model for other societies, including ATS.

At the national level, Dr. Jamil has been a member of the ATS Education committee since 2015, and has played an important role in ATS MOC efforts, including writing, editing and evaluation. She has chaired the Sleep Core Curriculum at ATS since 2016.

Dr. Jamil's commitment to education reflects her continual striving to deliver the best care to her patients. She is patient and thorough, kind and generous. She is the kind of colleague whom you can count on at any time of the day. Her dedication, grace, intelligence and integrity serve as a model for us all.



Tisha Wang, MD is named CTS' 2022 Outstanding Woman of the Year

- ◆ **Has made significant contributions in the fields of pulmonary, critical care and/or sleep medicine**

Dr. Wang is nationally known as a clinical expert in the following areas with regular invitations to speak at conferences and outside institutions and an abundance of scholarly activity (publication of manuscripts and editors/reviewers for academic journals):

1. Pulmonary Complications of Liver Disease and Care of the Critically Ill Liver Patient.
2. Pulmonary Alveolar Proteinosis (PAP)
3. Sepsis
4. Pulmonary Embolism

In recognition of her accomplishments, she was promoted to the UCLA "Clinical X" Series which was created by the University of California to recognize outstanding clinician-scholars and requires distinction in teaching and mentoring, professional competence, and creative activity that involves dissemination. Faculty in this tenure-equivalent series have achieved regional and national recognition for professional competence, contributions, and service to the profession.



- ◆ **Is an ATS member and has made contributions to the ATS. Please list committees and time served, assemblies and other areas of volunteerism**

Dr Wang's involvement with the ATS began in 2013 when she was asked to serve as one of 3 co-editors of the first edition of the ATS Review for the Pulmonary Boards. She played an instrumental role in the creation and completion of this book which has been downloaded by thousands of ATS members. She has served on the ATS Education Committee since 2014, becoming chair in 2020. During this time, she played a key role in the development of the "Core Curriculum," which provides physicians with high yield educational talks on key clinical topics at the annual conference which are linked to concise review articles and Maintenance of Certification (MOC) questions. Because of its innovative nature, she co-authored an academic paper on this endeavor in 2017 to assist other professional societies in setting up a similar system.

She was selected to be Vice-Chair of the Sleep Core in 2014, becoming Chair of the Sleep Core in 2016 and was senior editor for the 1st edition of the ATS Review for the Critical Care Boards that was published in 2017. As is typical for Dr. Wang, she brought a then highly innovative approach that involved an interactive format using mnemonics, key facts, and flash cards with a high density of figures, tables, and graphics.

She is regularly invited to teach at the annual Resident Bootcamp for incoming pulmonary/critical care fellows. In 2017, she co-directed a career development forum in 2017 entitled "Career Advancement for Clinical Educators: Fostering Leadership, Scholarship, and Opportunities for Success."

Lastly, Dr. Wang has served as the Chair of the Nominating Committee (and thus a member of the Executive Committee) for both the California Thoracic Society and the ATS Section of Medical Education. In 2021, she was elected as the Treasurer of the California Thoracic Society and will become President of the California Thoracic Society in 3 years.

- ♦ ***Is a leader and has mentored others meaning a personal relationship where a more experienced individual guides a less experienced or knowledgeable person as an advisor or guide.***

Dr. Wang has been a trailblazer all her life, starting from her childhood growing up in rural Texas as member of the only Asian family in a small town. Fast forward to 2008, when she found herself on a faculty with only two other women. Rather than seeing this as a deterrent, she seized the opportunity to improve the numbers of women and URIM in the training program and faculty. During her tenure as program director for UCLA's fellowship training program, as well as Pulmonary Educational Coordinator for the UCLA Internal Medicine Residency Program she started and serves as the main mentor to both a "Women in Medicine" and a "Women in Critical Care" interest group for the UCLA IM Residency Program over the past 2-3 years. The success of these efforts can be measured in the evolution of their faculty as they have retained every URIM and >60% of the women graduates from their training program over the last several years.

She has worked diligently to increase the number of underrepresented minorities and women in our profession. Over the last 5 years, UCLA program graduates composed of ~13-20% underrepresented minorities and >33-40% women (significantly above the averages based on published literature for pulmonary/critical care fellowship training programs). The last 2 classes entering our fellowship program were both 50% female.

On a personal note, I have watched Dr. Wang's steadfast determination to create an environment at her institution where diversity thrives over the last several years with a combination of awe and gratitude. The one word I would use to describe her is "inspirational." She leads not just through words and deeds, but through her boundless compassion and empathy.

She was the unanimous choice of CTS' Nominating and Executive Committees to be the inaugural recipient of our Outstanding Woman of the Year Award. In all my years of writing nomination letters for the Elizabeth Rich and other awards she has garnered the most enthusiastic support from her colleagues that I have seen.

I share a few examples below:

Dr. Kathryn Melamed who met Dr. Wang as a 4th year medical student and is now as junior faculty at UCLA writes:

"She has actively supported my career, clinical, and personal interests and fostered my growth into an independent physician and educator. Upon my graduation from fellowship, she helped create a new clinical educator position uniquely suited to my skillset and career aspirations. She has continued to sponsor my growth as an educator, bringing me into the PCCM Fellowship leadership and nominating me for ongoing leadership roles. She does the same for many of the other young female faculty in our division, and in doing so has created and cultivated a pipeline of women in PCCM for years to come."

Dr. David Sayah (Associate Program Director):

"Tisha Wang is an exemplary physician, patient advocate and mentor. Not only has she been a tremendous role model and career advisor to me personally, but I also have seen her mentor countless trainees and junior faculty during the nearly decade-long time that I have had the privilege of being her colleague. Over the years, one of the most important lessons I have learned from her is how to approach a difficult conversation with a trainee or mentee, such as giving negative feedback or having to explain a disciplinary action. Even in the most stressful or frustrating situations, Dr. Wang has a remarkable ability to maintain her focus where it should be: how can I best help this person achieve their potential? I've learned from her that approaching mentorship from this perspective is a key to success, and Dr. Wang personifies this philosophy better than any physician I have ever worked with."

Dr. Emily Schwitzer:

“She has a gift at identifying an individual’s unique strengths and helping them use those gifts to realize their [personal and professional] goals. In founding the Women in Critical Care group at UCLA, she ...created a space for me as well as countless other women to feel comfortable and confident in their role as leaders in and outside of medicine. Moreover, she has made it her mission to propagate her own success unto others.”

Dr. Kristin Schwab:

“Throughout my 9 years at UCLA, Dr. Wang has been the best mentor, teacher and role model I’ve had...Without question, she has impacted me more than any other physician I’ve met.”

In summary, Dr. Tisha Wang says it best herself:

Above all - support other women, not just in word but in action

Respectfully,

Angela Wang

Clinical Professor

UCSD

Division of Pulmonary, Critical Care, Sleep and Physiology

On behalf of:

1. CTS Nominating Committee

Jessica Goggin, Phd Chair (UCSD)

Laren Tan, MD (Loma Linda)

Matthew Dartt, RRT (UCLA)

2. CTS Executive Committee

Vipul Jain, MD (UCSF-Fresno, President)

Michell Cao, MD (Stanford, President-elect)

George Su, MD (Secretary, UCSF)

Co-signatories (UCLA)

1. Dr. Katie Melamed

2. Dr. David Sayah

3. Dr. Kristin Schwab

4. Dr. Emily Schwitzer

MEET VIPUL JAIN, MD CTS IMMEDIATE PAST PRESIDENT



Vipul Jain, MD
CTS Immediate Past President
Professor of Clinical Medicine
UCSF Fresno Division of Pulmonary/Critical Care

What's your story? What is your biggest accomplishment?

Although it may seem unambitious, getting into a residency program in the US was the biggest accomplishment for me. I grew up in Mumbai, India and after completing my medical school, came to the US in 1997 to complete a master's in public health at University of Iowa. Unfortunately, as an FMG (*foreign medical graduate*) and non-resident alien, getting into an IM residency proved to be much more challenging than I had ever imagined. It felt like everything I had worked for got rewarded the day I *matched* and nothing can top that feeling! It opened the gates for me to pursue my passion of an academic career. Fast forward to 2022, I served in administrative roles I never thought I would pursue. I don't believe that there is any country like ours on the planet, that accepts and supports immigrants with open arms, and I am so very proud of being a citizen of this beautiful country. I am grateful to my incredibly talented and kind colleagues who believe in me, and I love my job because of their support.

What in your life currently makes you feel the most fulfilled?

Serving as the PCCSM division chief during the pandemic while ensuring financial health as vice-chair for the department of medicine was challenging yet fulfilling. Varying entities (hospital, university, competing institutions, etc.) with inherent disagreements had to be aligned to the common goal of serving the community and looking beyond "us" alone. I simply had to team up the right people together and things would work themselves out. The pandemic has given us the once in a lifetime opportunity to feel like "yes, that's why I became an intensivist" ...I love it.

Fortunately, we can now probably say that we are past the pandemic. Being able to wake up every morning to spend the day with my colleagues at work (who now seem like my extended family), and at home with my wife and 2 boys (18 years and 12 years old) feels like a blessing. I couldn't ask more from life! We visit India about twice a year (consistently over at least past 5 years). While you can spend a lot on extravagant luxuries in India, we enjoy the simplicities there including eating nostalgic foods and visiting extended family. I hope to be able to continue putting my 2 cents on the table, at work and for my family for the foreseeable near future!

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Title (Click on title to open the manuscript)	Journal Section	First Author	Year	Vol	Issue	Pages	Date Posted
Trust in Science Now Deeply Polarized	News	Robbins RA	2022	24	1	12-13	1/27/22
Symptomatic Improvement in Cicatricial Pemphigoid of the Trachea Achieved with Laser Ablation Bronchoscopy	Pulmonary	Benge E	2022	24	1	8-11	1/18/22
January 2022 Medical Image of the Month: Bronchial Obstruction Due to Pledget in Airway Following Foregut Cyst Resection	Imaging	Panse PM	2022	24	1	6-7	1/2/22
January 2022 Critical Care Case of the Month: Ataque Isquémico Transitorio in Spanish	Critical Care	Mahoud MA	2022	24	1	1-5	1/1/22

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