

October 26, 2021



CTS INSPIRATIONS

CTS NEWS

President's Message

California, the former epicenter of the US pandemic, now has the lowest infection rate among all states as of October 22, 2021 thanks to the unwavering stand on masking, testing, and social distancing policies in place and emphasis on an evidence-based approach to vaccination wherever possible. As a CTS community, we have certainly done our part to promote vaccinations; more than 70% of California has now received at least one dose of the vaccine, more than any other state. There is hope of controlling the epidemic, and the CTS Board has unanimously voted for the **2021 [CTS Annual Conference](#) to be held *in-person* Friday March 11, 2022 – Sunday March 13, 2022 at the Portola Hotel and Spa, Monterey, CA** with appropriate COVID restrictions in place. We are looking forward to seeing you there! ☺



All CTS members should look out for voting ballots coming soon and kindly cast your valuable vote in each category. New officers will start their term coming January 2022.

We are also very excited to introduce a new category of CTS awards this year! Nominations are now open for “**Outstanding CTS Woman of the Year**” award.

- The nominee for this award will be submitted as the CTS nominee for the ATS Elizabeth Rich award, which is due on November 24, 2021.

The nominee should be an outstanding woman who:

- Has made significant contributions in the fields of pulmonary, critical care and/or sleep medicine
- Is an ATS member and has made contributions to ATS. Please list committees and time served, assemblies, and other areas of volunteerism.
- Is a leader and has mentored others, meaning a personal relationship where a more experienced individual guides a less experienced or knowledgeable person

Nominations are due by Friday 11/5/2021.

- Provide a few paragraphs explaining why you are nominating this person and how they meet all three criteria for the award. There should only be one letter, which can be signed by multiple individuals.
- Attach the nominee's current curriculum vitae. Send to info@calthoracic.org or jlqoggin@health.ucsd.edu

The Nominating Committee, led by Jessica Goggin, PhD, will meet on November 10, 2021 to select the honoree.

Happy Thanksgiving to all of you in advance and remember to take appropriate precautions as you enjoy the holidays.

Sincerely,

Vipul V. Jain, MD, MS
UCSF Fresno

EDITOR'S NOTE

“It is one thing to get it, another to keep it, and a third to deserve it.” (Paul Quinton, PhD)

This month's article **“Race in Pulmonary Function Testing: source of disparities or matter of accuracy?”** addresses a challenging topic within our field.

As this recently posted online comment reveals, long-held fundamental assumptions are hard to question and even harder to let go, particularly when it has to do with “truths” that we have been taught all our lives.

“Anyway, I don't think that the question of race correction should even be a topic of hot debate. Lung function variables differ between ethnicities/races, and if we attempt to eliminate race from our reference equations, we are doing more harm than good.”

But challenge we must, since these reference values are not only used to diagnose disease and thus are critical to ensuring that patients get access to appropriate medications and treatments but also determine which patients are eligible for clinical trials. The first step is to acknowledge the systemic racism that pervades our society and ask if it has affected the science that we do and the medicine that we practice. If yes, then we are obligated to carry out the studies to determine how to correct the problem.

Ultimately, as Dr. Stringer writes in his commentary, we must remain “alert to the limitations of all predicted value sets, attempting to do our best to provide interpretations that facilitate medical care, and avoiding systematically creating additional challenges for the individual related to race, should continue to be our primary goals.”

This issue also highlights Dr. Tisha Wang, CTS Treasurer. One of many great reasons to get involved with CTS is the opportunity to meet so many people dedicated to improving respiratory care in California. She truly speaks for all of us working for CTS “...one of the reasons I love CTS so much – the ability to greatly influence the field and mentor those outside your institution is truly a privilege.”

Commentary

Dr. William Stringer
Harbor-UCLA

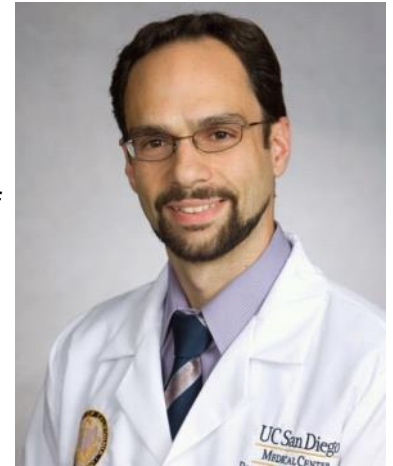
As Dr Papamatheakis's acknowledges in his article, the issue of systemic racism in the PFT lab is certainly a challenging subject without easy answers. Specifically, which predictor sets to utilize and if racial 'correction' is appropriate. Clearly Global Lung Initiative (GLI) predictors or sitting height are not going to entirely resolve the issues, however, the concept of lung size and it's relation to predicted values is clearly important (Harik-Khan, R. et al. AJRCCM 164, 1647-1654, 2001). Further, the issue commonly encountered in the PFT lab is the issue of mixed race and the problems associated with asking the patient to 'self identify' with the standard selections in PFT programs. Race, ancestry, ethnicity, socio-economic status, and environment are all mixed together in each individual, and without access to detailed information on genetic ancestry as well as these other variables, any selection will be inadequate (Borrel, L et al. NEJM 384:5, 474-480). Remaining alert to the limitations of all predicted value sets, attempting to do our best to provide interpretations that facilitate medical care, and avoiding systematically creating additional challenges for the individual related to race, should continue to be our primary goals. Finally, at least acknowledging at some level that systemic racism exists in many facets of medicine will be at least a good first step to resolving these issues.

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Race in Pulmonary Function Testing: source of disparities or matter of accuracy?

Dr. Demosthenes Papamatheakis
UCSD



Racial inequities continue to be present in our medical system and more recently are being addressed with greater urgency. Powerful social movements, coupled with our ability to disseminate information broadly and quickly through multimedia, have further advanced the importance of addressing racial disparities in society as a whole and especially in healthcare. Although some healthcare providers would like to think that there are no racial biases or related inequities in medicine, this is simply not the case. There are multiple examples of healthcare disparities and inequities, with the most recent example being the higher incidence of SARS-CoV-2 infections in minorities¹. Therefore, careful introspection and questioning of established ideas is imperative to further the discussion and attempt to address these inequities.

Pulmonary medicine, similar to other medical specialties, is not an exception regarding healthcare disparities. In addition to the SARS-CoV-2 example above, racial disparities relate to the incidence of asthma² and smoking-related lung disease³ as well as the mortality rate of lung cancer⁴ in minorities. More recently, pulmonary function tests (PFT) and their related healthcare disparities have come to the forefront. Specifically, the American Thoracic Society guidelines^{5,6} recommend the use of “race correction” formulas during PFT interpretation of Black patients. The process in question pertains to the use of a “correction” factor based on the self-reported race of the subject if the reference dataset does not include a same-race comparator. Therefore, a self-reported Black individual would have their PFT values compared to downward-adjusted normative values, decreased by approximately 6 to 12%. In order to better understand the problematic nature of this “correction,” a closer look at PFT history and interpretation is necessary.

As most pulmonologists are taught during fellowship, the crux of PFT interpretation relies on comparing the values achieved by the subject with a reference dataset. This dataset includes the 95% normative range of values that a similar subject of the same sex, age, height, and race could achieve. Variation beyond this range could be attributed to disease, assuming there is no variance due to technical issues pertaining to testing itself. Although sex (due to differences in relative thoracic wall dimensions)⁷, age^{8,9}, and height¹⁰ can easily be perceived as factors affecting lung size and therefore PFT variance, the concept of race is a little harder to explain.

Part of the problem is that we are attempting to associate a physical attribute (lung size) to a social construct (race or ethnicity). The latter is hard to define objectively in scientific research, unless we equate it to ancestry and genetics, and by doing so, we miss out on the socioeconomic nuances and other inequities associated with race¹¹. Moreover, even if we were to entirely consider this a difference in ancestry and genetics, applying it to every-day practice would be problematic as it would require genetic assessment of every patient to get an objective determination. In most cases, race is a self-reported and largely subjective determination based on their identity, their life experience, and their cultural background. To add to this complexity, there is a significant amount of racism associated with the history of PFTs. During the 1800s, in the context of the Antebellum South, the emergence of Abolitionism, and the growing divide between the North and the South leading to the Civil War, PFT results and their skewed interpretation were weaponized in an attempt to show “inferiority” of Black slaves compared to whites due to a “deficiency” in lung size^{12,13}.

This racial difference in PFTs was accentuated by the US Sanitary Commission and its “Investigations in the Military and Anthropological Statistics of American Soldiers” as put together by Benjamin Gould¹⁴. Although there are multiple methodological issues with how the data was obtained, analyzed, and reported, this survey furthered the notion of a racial difference in PFTs with white soldiers having higher values than Black soldiers¹⁵. Misinterpretations of these results were again used to further racial bias by individuals like Frederick Hoffman, a life-insurance statistician, who supported the narrative of “low lung capacity” as evidence of “race inferiority” for Black Americans in his publication “Race Traits.” In addition to explaining away post-emancipation struggles faced by Black Americans, this was also an excuse to increase their insurance premiums¹⁵. Additionally, PFT terminology (i.e. “vital capacity”) enhances the problem, since it implies something more than just a mechanistic difference and has insinuations of vigor and power, furthering the false notion that this is more than a measure of lung size.

Interestingly, multiple more recent publications, in an era of regulated research with significantly diminished racial biases and greater data integrity, including the Global Lung Function initiative¹⁶, have confirmed differences between lung sizes of Black and white people without lung disease. And although there seems to be a consistent finding of slightly smaller lungs in Black compared to white populations, this clearly is not a matter of racial inferiority or superiority, but rather a variance in organ size, without a definitive functional implication. Most studies that have further investigated this variability¹⁷⁻²¹ seem to attribute the majority of the variance (~50%) to anthropometric differences between racial groups and specifically sitting vs. standing height difference (i.e. higher trunk height in European Americans vs. higher leg length in African Americans). This, in turn, seems to be associated with genetics and ancestry with a slightly lower lung size with a more African ancestry²². Only a small percentage of the variance has been attributed to socioeconomic status (~10%), and the etiology of the remaining differences (~40%) remains unclear.

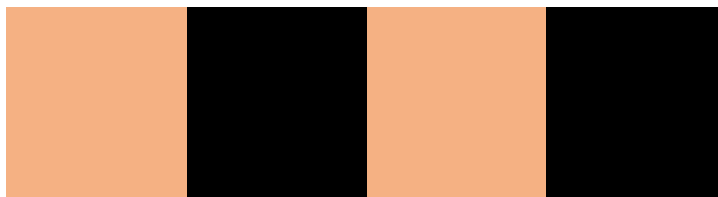
Due to the aforementioned sordid history of PFTs and the increased awareness of healthcare disparities, the question of whether race should factor in PFTs and their interpretation at all is now being raised. The term “race correction” has negative connotations, seems inappropriate, and is relatively outdated, as we now have better reference datasets with greater diversity that allow for more equitable comparisons and do not rely on any assumptions. Nevertheless, the use of the relatively subjective and self-reported social concept of race to further characterize an anatomic value (i.e. lung size) raises concerns of introducing systemic bias to medical testing. This could also lead to avoiding the non-anthropometric differences that may be skewing normative reference values, such as socioeconomic, nutritional, educational, environmental, exposure, and other race-related disparities that may create an inaccurate comparator. Proponents of not using race in PFT interpretation argue that using the same normative dataset for everyone can validate symptoms, alter treatment, provide a needed diagnosis, and qualify for benefits in patients that previously were considered to not have lung diseases. Opponents would note that this could also lead to falsely diagnosing healthy patients with lung diseases, burdening them with unnecessary treatments and/or additional financial responsibilities, or even disqualifying them from surgeries or other medical interventions due to increased risk of complications. Furthermore, some experts in the field are worried that by ignoring self-identified race and ethnicity altogether may be counterproductive and may worsen the healthcare inequity divide, since we would be ignoring the additional correlates of health that are captured by race and ethnicity, such as culture, socioeconomic status, access to care, environment, bias, and racial discrimination. These are hard to quantify and study and may to some extent be reflected in self-reported race²³.

The use of race in medicine and its effects on patient care and healthcare inequities is not a problem with an easy solution. Further discussion and challenging established processes and beliefs is imperative to further our understanding of its optimal use. It could be argued that an ideal world of PFT testing and interpretation would include exhaustive data on ancestry and genetics, anthropometric characteristics, and socioeconomic and environmental exposure history, in order to optimize reference datasets and refine comparisons. And although this could potentially minimize healthcare disparities and the importance of race in PFT testing, it is still unclear whether completely omitting race and ethnicity is the best approach.

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MEET TISHA WANG, MD CTS TREASURER



Tisha Wang, MD

CTS Treasurer (2021-2022)
Professor of Clinical Medicine
Clinical Chief, UCLA Division of Pulmonary/Critical Care
Vice Chair, Inpatient Services
UCLA Department of Medicine

What is your dream job?

“I would say that I am actually largely living out my dream job now, although this is a job that I never thought I would have in a million years. As a small-town Texas kid, my plan was always to practice primary care in a rural location in Texas. Even when I came to UCLA for residency in 2002, I didn’t envision staying because the plan was always to go back to Texas. I ended up loving the UCLA training environment, and they easily convinced me to stay for a pulmonary/critical care fellowship and a clinician educator faculty position. Over the years, I was given more and more opportunities to try a lot of different things within academic medicine, and I fell in love with so many aspects of it – getting to be involved in both patient care and medical education as a clinician educator, training the next generation of physicians, becoming super-specialized as an expert in rare lung disease and pulmonary complications of liver disease, engaging in clinical research and contributing to the literature. I feel lucky to have been able to play meaningful roles in contributing to the future of education and the progress of medicine.

Every leadership position I earned – Fellowship Program Director, Clinical Chief, Chair of the ATS Education Committee, Vice Chair of the Department of Medicine at UCLA – provided unique opportunities to effect change in areas that were extremely important to me. I have been able to build a faculty and training program at UCLA that is strong in clinical care, research, and education and values all the missions equally. We have expanded our fellowship from two graduates per year to nine per year, creating leaders in the field and sending them out to various academic and community hospitals and clinics. I have sought to change the UCLA workforce in pulmonary/critical care to include many more women with an improvement in all aspects of diversity. And I have had many opportunities to make a larger national impact with my roles in the professional societies (CTS and ATS) to promote clinician educators and women in medicine. This is one of the reasons I love CTS so much – the ability to greatly influence the field and mentor those outside your institution is truly a privilege.

I will admit though that I definitely work too hard sometimes and no job is perfect. Being a frontline leader during the COVID pandemic and bearing the responsibility to protect our fellows and faculty (while optimally caring for as many patients as possible) was overwhelming and daunting. But at the end of the day, my career has been incredibly meaningful and I am constantly surrounded by amazingly talented, motivated, and kind colleagues. So if a dream job is one that makes you feel constantly lucky and grateful to be able to do it, that combines passion with a sense of purpose, then yes, in many ways, I am living the dream.”

What’s the best way to earn somebody’s respect?

“I think there are many ways to go about this but the first is to listen. I’m a big fan of examining everyone’s different “work personalities” which allows you to understand everyone’s strengths and challenges and then harness the strengths into really well-designed teams. Doing this well requires empathy and the ability to connect with individuals so that you are able to understand who they are, where they are coming from, and what is important to them in their careers and lives. Utilizing people’s strengths and encouraging them to find their passion helps to maximize success and morale within the division to that we can achieve our shared goals.

The second valuable trait in the field of medicine is simply to always strive to be an active and reliable clinician - which is to say that you are evidence-based, accessible, kind, conscientious, dependable, etc. When you become a clinical leader, people will respect you more if you are on the ground and in the trenches with them, modeling compassion, calm, and a strong work ethic.

The third way to earn respect is just to do things well when you are handed a new project or leadership position. When you make a good impression with your first task, whether that is a manuscript or a workshop or a difficult decision, people will want you on their team for years and years to come.

And the last piece of advice I have is to always be authentic. Do what you say. Say what you mean. Be vulnerable. Allow people to see your true colors – you rarely lose by being authentic.”

Have you read any good books?

“I spend a lot of time reading about social psychology (i.e. Brené Brown) which really helps me with all aspects of my career and especially my leadership positions. But the most recent read was “Chasing My Cure: A Doctor’s Race To Turn Hope Into Action” which details the amazing story of Dr. David Fajgenbaum, who was able to move research forward to save his own life in a rare disease. The story about his quest for a cure for his obscure disease resonated with me because I have become both a researcher and a patient advocate for those with rare lung disease, focusing mostly on pulmonary alveolar proteinosis (or PAP for short). Some people wonder why I work in rare disease and my answer is always the same - “because someone has to.” Up to 10% of the US population has a rare disease and yet <5% of those diseases have an FDA-approved therapy. These patient populations are suffering because no one knows how to diagnose them, treat them, or educate them about prognosis so I very much think of them as an underserved population. I had the opportunity to become an advocate and champion and helped launch the PAP Foundation, the main patient advocacy organization for those with PAP. I now serve as the Clinical Director and VP of that foundation (www.papfoundation.org) and prior to the pandemic, I would travel across the US to provide both physician and patient education. It is always so meaningful and energizing to meet all the PAP patients and have them see me as one of the few people who are fighting for them. And it only drives me to work harder to find both an FDA-approved therapy and a cure for this devastating disease.”



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Respiratory Care Burnout

By Krystal Craddock MSRC, RRT, RRT-NPS, AE-C, CCM



Burnout in healthcare has been demonstrated and researched during the COVID-19 pandemic, mainly with the focus on the physician and nursing professions. As with other epidemics and pandemics, Respiratory Care has been a critical part of the healthcare team in treating COVID-19 patients. A recent publication in the Respiratory Care journal demonstrated that out of 1156 RTs from 26 institutions nationwide, overall burnout rate was 79%, with 10% having severe burnout, 32% moderate burnout, and 37% mild burnout.¹ Of the RT respondents reporting burnout, these individuals worked more hours per week, worked more hours in intensive care unit, reported more exposure to COVID-19, and were more likely to work in community hospitals.¹ There were no demonstrated differences in burnout for highest degree earned, role within the department, years as an RT, commute time, shift worked, gender, or race, basically pointing to the fact that, we're all burned out.¹

With all this burnout data the question remains, what do we do about it? Resilience tools suggested by some organizations, like the American Association for Respiratory Care, include free employee assistance programs that can offer counseling services to those struggling, practicing mindfulness, increased recognition, and giving gratitude.² As we venture into Respiratory Care Week starting October 24th, I want to highlight the needs of our RT team members. RT leaders, colleagues, and interdisciplinary team members can easily provide gratitude and recognition by providing a simple "thank you" and "you are appreciated". We need to encourage physical wellness, self-care, and positive time outside of work to help battle burnout amongst our colleagues.

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SWJPCC Journal - Volume 23 Issue 3

Volume 23, Issue 3							
Title (Click on title to open the manuscript)	Journal Section	First Author	Year	Vol	Issue	Pages	Date Posted
Repeat Episodes of Massive Hemoptysis Due to an Anomalous Origin of the Right Bronchial Artery in a Patient with a History of Coccidioidomycosis	Pulmonary	Asllanaj B	2021	23	3	89-92	9/13/21
Home-Based Physiological Monitoring of Patients with COVID-19	Pulmonary	Warrier A	2021	23	3	76-88	9/3/21
Medical Image of the Month: Stercoral Colitis	Imaging	Peters KH	2021	23	3	73-5	9/2/21
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