



## In celebration of being alive

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I am filled with mixed emotions as I write this Editor's page for the Journal. It is an honor and a privilege to be a part of the Journal's esteemed editorial board. However, it is difficult to shake the reality that we are currently living through, and caring for our patients during one of the most enduring times in history—the COVID-19 pandemic. As we bemoan the untimely loss of many—family, friends, and colleagues, we also need to live through these times of uncertainty fueled by the pandemic, faltering economies, and false interpretations of ISCHEMIA. As we combat the present and emerging challenges, I remind myself of a story I read in high school, that I will briefly share with the readers. Perhaps, many may already know of it.

Around the beginning of the second half of the previous century, a keen eye watched a Grand Prix taking place at the Red Cross Children's Hospital in Cape Town, South Africa. The race car was a hospital food trolley, manned by two intrepid boys: one of whom was blind—the mechanic, and the other was without an arm—the driver. The mechanic provided the thrust by pushing the trolley and, the driver, sitting in the front, steered the trolley with his feet. While limited in their physical abilities and a make shift car, their enthusiasm was unlimited and improvisation abound. The inevitable crash in the end did not dull their spirits nor their audience's, who cheered the dynamic duo as if it was the Indy 500. The keen eye observing this 'Grand Prix' was that of Dr. Christiaan Barnard, a pioneer in open heart surgery and cardiac transplant. He knew the driver, whom he had operated upon previously and who now had a bone malignancy, resulting in amputation of one of his arms. The mechanic, he came to know, was accidentally blinded during a fight between his drunk

parents. Despite their limitations and illnesses, none of which were their faults, the boys were full of zest for life, and left the site of the crashed food trolley feeling like winners. Just like many of us now, Dr. Barnard was going through a rough patch in his life. He had recently survived a road accident and was recovering both physically and emotionally. After his accident Dr. Barnard experienced agony, fear and anger, similar to what we are experiencing these days. Watching the two boys win the 'Grand Prix' made Dr. Barnard realize that we must find happiness in our accomplishments and strive to do better, rather than mope over our limitations.

The fact remains that after the current global upheaval ends, there will be more challenges coming our way. We will be left with many uncertainties to deal with and the path ahead definitely looks steep. Our success will depend upon our collective ability to channel through the known and the unknown, akin to an icebreaker. Nuclear cardiology has faced significant challenges in the recent past. I vividly remember my first ASNC Annual Scientific Sessions at the Prudential Center in Boston 2008. It was a time of great enthusiasm and excitement in the field, but paralleled the financial crisis and a recession, resulting in unprecedented changes in the practice of medicine and imaging, the effects of which are felt to this day. This slump was further compounded by emergence of competing technologies, fake news suggesting the lack of relevance of nuclear cardiology in the twenty-first century and widespread radiophobia. Nuclear cardiology not only weathered this storm, thanks its strong foundation formed on decades of scientific data, but also thrived, fueled by novel scientific breakthroughs and the foresight of its leadership. I had the pleasant realization of the achievements in nuclear cardiology while giving a keynote talk during the 2013 ASNC Annual Scientific Sessions in Chicago. I was tasked with providing an emerging leaders perspective on trends in nuclear cardiology and its future. I highlighted the achievements in nuclear cardiology and that it had matured from a tool for just assessing myocardial perfusion and function to one with a

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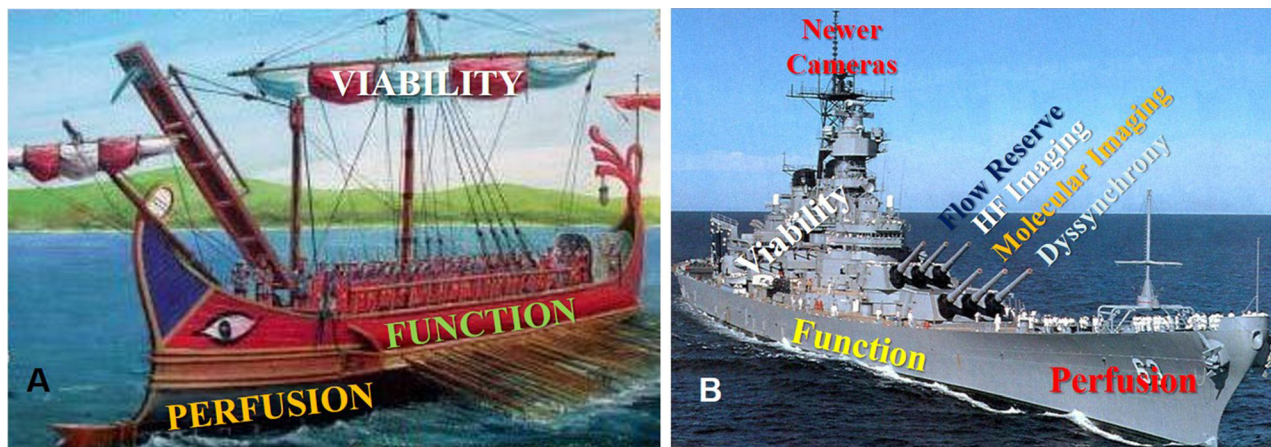
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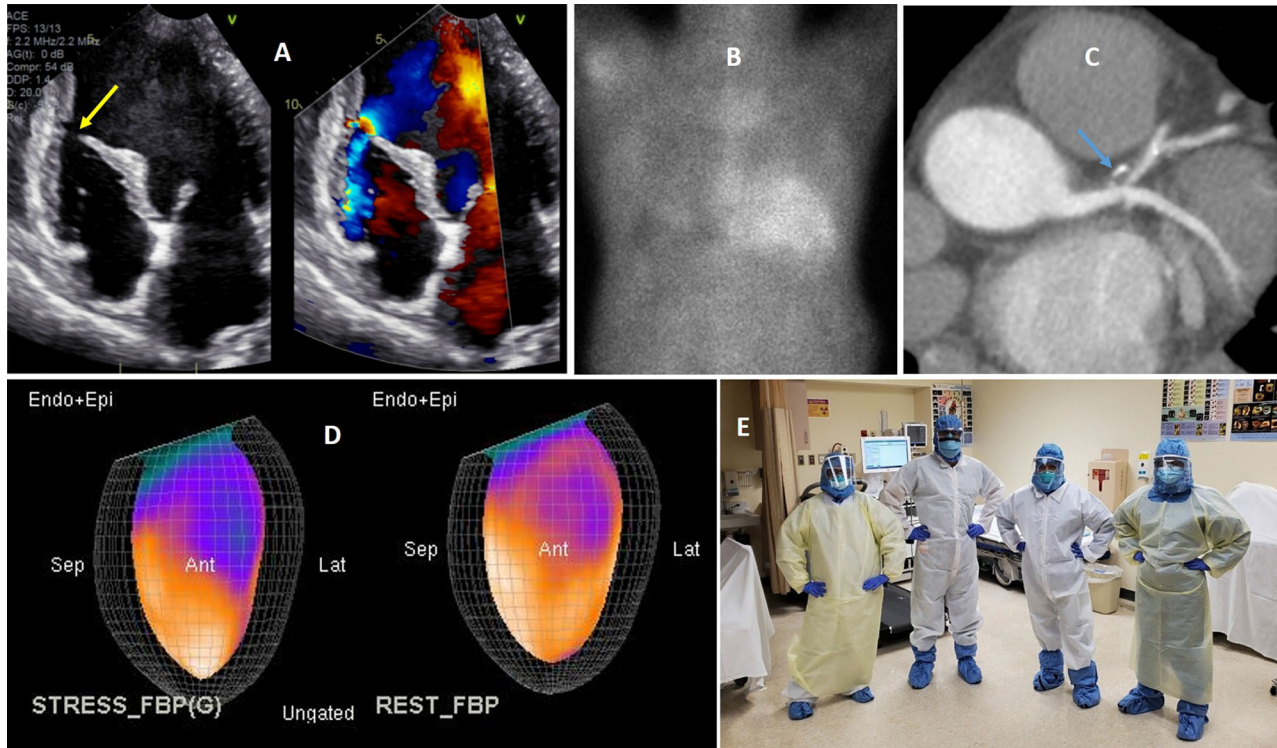
capability of performing molecular imaging, imaging sympathetic innervation, inflammation, and synchrony (Figure 1). This unparalleled ability of imaging cardiovascular structure, function, and molecular processes was facilitated by the development of new tracers and advancements in camera technology, fostered by a strong academic and industry partnership. This experience instilled in me new hope, enthusiasm and the COURAGE to ignore the noise, continue practicing nuclear cardiology, and impress upon its effective application at several institutions where I had the opportunity to contribute. Several years hence, nuclear cardiology is even more invigorated, with the revival of the old (PYP imaging) to diagnose the new (amyloidosis), continued advancements in SPECT and PET, and a strong advocacy arm to ensure its deserved growth. With its widespread availability, and an armamentarium to influence management of a gamut of cardiovascular diseases, nuclear cardiology is definitely a technique for the masses.

When the COVID-19 dust settles, and I hope it does soon, we will quickly realize that cardiovascular disease is still the biggest killer worldwide (Figure 2). We have been forced to curtail our practices of cardiovascular care, so much so that I fear that we may be discriminating, on how we provide standard of care, based on COVID status. While I do realize that there are many unknowns, I earnestly hope that we can avoid going

back to the dark ages of when HIV first became prevalent in the 1980s. Our job as leaders in healthcare is to advocate for our patients, provide standard of care that is based on decades of rigorously collected data, and not alter our practices guided by on the fly recommendations. However, it is imperative that while we strive to care for our patients, we are protected and protect those who we work with and lead. The emphasis should move away from finding a reason to not provide appropriate care, to safely practicing standard of care, by ensuring adequate PPE for those involved (Figure 2). Nuclear cardiology with no contraindications will continue to remain at the forefront, critically guiding the management of patients with cardiovascular disease. The resilience of nuclear cardiology stems from its ability to develop novel strengths and improvise around its limitations, rather than aping other techniques. I hope that by now it has dawned upon all of us that a more expensive or noisier machine, or being able to float wires close to the heart, does not necessarily get us any closer to the truth nor save more lives. Nonetheless, despite all odds, as physicians and providers, cardiologists, and imagers, and other healthcare workers, we should get on with our business of being able to do what we are best at and what we all do unrelentingly every day. After all, as Dr. Barnard said in his prose “The business of living, is the celebration of being alive.”



**Figure 1.** Nuclear Cardiology: A Ship of Theseus? Evolution of nuclear cardiology, from (A) twentieth century to, (B) in the twenty-first century. Slides presented at the 2013 ASNC Annual Scientific Sessions, Chicago, IL. Individual images downloaded from <https://www.romae-vitam.-com/roman-ships.html>, and <https://www.navysite.de/bb/bb63.htm>.



**Figure 2.** Potpourri of cardiovascular disease in the era of COVID-19 pandemic. (A) Echocardiogram from a 65-year-old COVID (–) patient who took the stay at home order to heart. Patient presented with heart failure, many days after experiencing anginal symptoms. Ventricular septal defect (yellow arrow) developed as a complication of ST-elevation myocardial infarction, requiring open heart surgery. (B) Markedly positive Tc-99m pyrophosphate study in a COVID (–) outpatient with heart failure, being treated with standard heart failure therapy. Patient symptomatically improved after appropriate medical changes were made and hospital admission was avoided. (C) Cardiac computed tomography (CT) angiography, with retrospective gating, from a 60-year-old COVID (+) patient who presented with atypical chest pain, new LV dysfunction (on point of care echocardiogram) and previously noted mild coronary artery calcium on chest CT done for pulmonary embolism. A large, lipid rich (vulnerable plaque; blue arrow) resulting in distal left main and ostial LAD stenosis was diagnosed along with an EF of 24% and LAD wall motion abnormalities. (D) Rest/stress myocardial perfusion from a COVID (+) patient presenting with chest pain, and a remote history of CAD. Diagnosis of modest ischemia in the diagonal distribution guided escalation of antianginal therapy. (E) Cardiac stress laboratory personnel, at Stroger Hospital of Cook County, in full personal protective equipment gear, ready to perform an appropriate stress test in a COVID (+) inpatient.

## Disclosures

“In Celebration of Being Alive” is the title of a prose originally authored by Dr. Christiaan Barnard. Dr. Malhotra does not claim ownership of the title. Dr. Malhotra serves on

the Speaker’s Bureau of Pfizer and on the Advisory Board for Akcea Therapeutics.

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