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Title

The REPAIR Project: A Prospectus for Change Toward Racial Justice in Medical Education and Health Sciences Research: REPAIR Project Steering Committee.

Permalink

<https://escholarship.org/uc/item/73b3026c>

Journal

Academic medicine : journal of the Association of American Medical Colleges, 97(12)

ISSN

1040-2446

Author

REPAIR Project Steering Committee

Publication Date

2022-12-01

DOI

10.1097/acm.0000000000004831

Peer reviewed

The REPAIR Project: A Prospectus for Change Toward Racial Justice in Medical Education and Health Sciences Research

REPAIR Project Steering Committee

Abstract

Amidst ongoing efforts to address racial injustice, U.S. medical institutions are grappling with the structural roots of anti-Black racism. The REPAIR (REparations and Anti-Institutional Racism) Project is a 3-year strategic initiative at the University of California, San Francisco aiming to address anti-Black racism and augment the presence and voices of people of color in science, medicine, and health care. The REPAIR Project was designed in response to an unmet need for critical dialogue, cross-disciplinary research, and curriculum development addressing structural racism. It offers a framework for thinking and acting to achieve repair in relation to racial injustice and is anchored by 3

concepts—reparations, abolition, and decolonization—which have been deployed as annual themes in academic years 2020–2021, 2021–2022, and 2022–2023, respectively.

The theme of medical reparations builds on the longstanding call for slavery reparations and the paying of debts owed to Black Americans for the harms of slavery. The REPAIR Project focuses on the specific debts owed to Black Americans for racial harm in health care settings. The theme of medical abolition examines the intersections of incarceration, policing, and surveillance in health care and the role of clinicians in furthering or stopping oppressive practices that bind patterns of Black

incarceration to health and health care. The theme of decolonizing the health sciences targets “othering” practices entrenched in scientific methodologies that have arisen from colonial-era beliefs and practices around imperialism, including how the colonial-era concept of race contributes to ongoing racial harm.

In this article, the authors describe the REPAIR Project, preliminary outcomes from its first year, and potential future lines of inquiry for medical educators and health sciences researchers. The authors argue that the full damage from slavery and its legacies cannot be undone, but everyone can work in new ways that reduce or eliminate harm.

Amidst ongoing efforts to address racial injustice, medical institutions across the United States are grappling with the structural roots of anti-Black racism. The REPAIR Project is a 3-year strategic initiative at the University of California, San Francisco (UCSF) that aims to address anti-Black racism and augment the presence and voices of Black, indigenous, and people of color in science, medicine, and health care. REPAIR is an acronym that stands for REparations and Anti-Institutional

Racism, which serves as the unifying theme of the project. The REPAIR Project was created and is run by faculty, students, staff, and medical residents across UCSF and the University of California, Berkeley from a wide range of disciplines and medical specialties who volunteer their time to the project. It is anchored by 3 concepts—reparations, abolition, and decolonization—deployed as annual themes in academic years 2020–2021, 2021–2022, and 2022–2023, respectively.

The REPAIR Project was designed in response to an unmet need for critical dialogue, cross-disciplinary research, and curriculum development addressing structural racism, and it offers a framework for thinking and acting to achieve repair in relation to racial injustice. As these concepts are being developed in the medical scholarship, the REPAIR Project offers an innovative working example of how to apply well-developed social science concepts to clinical education and training and health sciences research. Additionally, the REPAIR Project operates with a horizontal leadership structure, merges

scholarship with activism, and promotes dialogue between academic experts and community experts and across disciplinary boundaries. Thus, this initiative offers examples of scholarly and institutional practices that are actively antiracist and embody the themes of reparations, abolition, and decolonization.

In this article, we describe the conceptual tools used to bring the REPAIR Project to fruition, preliminary outcomes from the project's first year, and potential future lines of inquiry for medical educators and health sciences researchers.

Background

UCSF, like other medical schools in the United States, has a robust history of antiracism efforts. In the 1960s, the campus's Black residents organized one of the first affirmative action offices at a United States medical school and established free clinics for the underserved Black community in San Francisco. The Black Caucus also fought for fair treatment and workers' rights, increased enrollment of Black

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Acad Med. 2022;97:1753–1759.

First published online July 12, 2022

doi: 10.1097/ACM.0000000000004831

students, and supported antiapartheid mobilization efforts in the 1980s. In 2016, UCSF medical students helped form the activist collective White Coats for Black Lives, now a national organization with more than 30 chapters. Staff, clinicians, and students from across the schools of medicine, nursing, pharmacy, and dentistry later that year formed the Do No Harm Coalition, which organizes health professionals into advocacy campaigns against racial injustice. Currently, UCSF is developing a longitudinal Anti-Oppressive Curricular Initiative and a Policy on Response to Learner Concerns About Content and Delivery of Educational Activities, which seek to identify and address medical racism in educational materials and pedagogy.

The REPAIR Project supports the university's ongoing efforts by promoting inquiry on an annual theme (reparations, abolition, decolonization) through the following activities: a public imagining event introducing that year's theme to the greater campus community; 3 campus forums featuring scholars, clinicians, and community members; a student-led reflection event following each campus forum; a student-led teach-in series, co-organized with the UCSF chapter of White Coats for Black Lives; a research mentorship program led by REPAIR Project faculty; and a resource repository of syllabi, teaching resources, toolkits, and archived talks and panels on the REPAIR Project website (<https://repair.ucsf.edu>). The project uses a hub-and-spoke model, with working groups (curriculum, community outreach, research, publications, and events) anchored to a central steering committee of faculty and graduate students and an advisory committee that includes campus leaders, clinicians, faculty, and community members. Recordings of past events and teaching resources can be viewed on the project website (<https://repair.ucsf.edu>).

Medical Reparations

The idea of medical reparations builds on the longstanding call for slavery reparations,¹ that is, the paying of debts owed to Black Americans for the harms of slavery. The REPAIR Project focuses on the specific debts owed to Black Americans for racial harm done in health care settings as a legacy of slavery

that persists today. The generation-long life expectancy gap between Black and White Americans has not significantly narrowed since antebellum times. These racial disparities are entangled with poverty, class, and social power in myriad forms, as well as with specific forms of discrimination in health care. The "slave health deficit"² endures because its original wounds have never been sutured. Reparations are in this sense a health protective remedy, offering not only an opportunity to develop forms of compensation for the residues of slavery that persist in other forms of racial injury in medicine today but also an opportunity to eliminate these forms of harm.³⁻⁷

The unequal treatment of Black people in medical experimentation has a long history,⁸⁻¹⁰ from the U.S. Public Health Service Syphilis Study at Tuskegee¹¹ to "population control" in the form of forced sterilizations of people of color who gave birth,¹² the exposure of people of color to plutonium radiation (60% were people of color, mostly African Americans),^{8,13} and the use of nonconsenting incarcerated African Americans for dermatology studies.¹⁴ Discrimination also occurs through racialized diagnostics, including pathologizing the protest behaviors of Black men as schizophrenic,¹⁵ assuming that Black people have a higher pain tolerance,^{16,17} and in the persistent use of race in diagnostic algorithms and technologies despite a lack of scientific evidence that using these distinctions improves health outcomes.¹⁸ From big data technologies¹⁹ to the most carefully calibrated diagnostic machines, racial prejudice can be reproduced even as we strive for more precise and personalized medicine. The flawed calibration of pulse oximeters for dark skin²⁰ and the consequent underdiagnosis of Black and Brown people with severe COVID-19 symptoms is but one recent example of this.²¹

Medical institutions have also contributed to segregation. The 1910 Flexner Report on Medical Education justified the closure of 5 of the 7 Black medical schools in the United States at the time, leaving only Meharry Medical College and Howard University.²² As a result, medical education in the United States has occurred almost exclusively at predominately White institutions for more than a century. Blatant discrimination in

medical school and residency program admissions has long stymied the careers of Black medical students²³ and, despite rectifying the discrimination of many others who were historically also excluded from medical careers (e.g., Jewish and Catholic people, women), a 2015 report by the Association of American Medical Colleges showed that the admission of Black men into medical school has declined since the 1970s.^{24,25}

The 2019 creation of a Lancet Commission on Medical Reparations and Redistributive Justice signaled the ongoing need to address possible modes of reconciliation in medicine and the health sciences by way of reparations.²⁶ Discussions about free medical school tuition for Black students, purposive recruitment of Black research clinicians and biomedical scientists, funding for research that will serve Black communities, and the provision of free medical services for Black patients are being held alongside discussions about state legislation rejecting affirmative action protections that continue to impact educational institutions. One of the goals of the REPAIR Project is to enable the campus community not just to imagine but also to ultimately implement concrete forms of medical reparations. These possibilities are currently being discussed at UCSF and are summarized in a resolution paper available on the REPAIR Project website (<https://repair.ucsf.edu>).

Medical Abolition

Abolitionism emerged in the 19th century with the explicit goal of ending slavery. Members of the White Christian temperance movement and Black individuals who had been enslaved and helped build the Underground Railroad joined together to form political and publishing platforms to advance the largely unwritten calls of enslaved people for freedom.^{27,28} Today, abolition has been taken up as a concept and practice by Black studies scholars to end the unjust mass incarceration of people of color and the practice of barely compensated prison labor, signaling that the promise of liberation is incomplete.²⁹⁻³¹ The intensified threat posed by COVID-19 in prisons and jails, where those held are disproportionately people of color, has renewed the urgency around abolition. The call for abolition has been taken up as

an alternative to prison or police reform efforts and suggests that antioppressive efforts need to fully rethink the very structures of surveillance, incarceration, and policing rather than simply modifying them. As part of the REPAIR Project, we ask: What might the practice of abolition do for medicine? How does medicine directly and indirectly promote or reinforce systems of incarceration along racial lines?

Medical abolition invites a reconsideration of both how racial bias exists in clinical practice and how clinicians contribute to patterns of race-based surveillance and incarceration in health care settings, in diagnostic practices, and in the policing of health care institutions.³² Medical abolition calls for an end to police violence and the torture of Black people³³ on medical grounds, compelling physicians to intervene to prevent such violence. To “do no harm” in medicine may also mean questioning the use of armed police for security in hospitals, which, though often considered necessary for safety, also turns healing places into sites of risk not just for undocumented, paroled, or profiled individuals who are disproportionately people of color but also for all people of color who are often unjustly profiled as criminal just because they are Black. Alternative forms of security and conflict mediation can eliminate the need for police, while still preserving the safety of clinicians and staff.

Medical abolition also recognizes how medicine may contribute to race-based criminalization practices through implicit bias or biased algorithms of care. This is seen in addiction care, where care for Black people focuses on criminality and surveillance while care for White people relies on medicalized forms of intervention.^{34–36} Similarly, medical diagnoses have historically pathologized and criminalized Black grievances as forms of both madness and criminality. For example, consider the threads of continuity between the slavery-era diagnosis of drapetomania, a supposed mental illness that was diagnosed to explain the behaviors of enslaved men and women who ran away,³⁷ and the modern-day diagnosis of schizophrenia, which has been diagnosed to explain the behaviors of Black men protesting civil rights or aggrieved mothers of Black children lost to gun violence.¹⁵

Medical abolition also focuses on the fact that Black patients have been incarcerated at persistently increasing rates,³⁸ with funding for prisons and jails ballooning while funding for social safety net services and support programs drops. This also means that prisons and jails are often the only sites for the most marginalized and precarious members of society to receive health care and especially mental health care.^{39,40} Even clinicians working in prisons can become complicit in advancing racialized incarceration practices by providing and/or withholding health care for the incarcerated.⁴¹ Medical abolition calls on physicians working in the criminal legal system to simultaneously advocate for ending racial incarceration as a medical priority while also attending to the urgent need for improved prison health care.

Finally, medical abolition calls for greater critique of practices that rely on the emotional, intellectual, or physical labor of individuals from historically oppressed communities and instead supports overhauling pedagogical and care practices to uplift and support these communities. For instance, in medical education, medical abolition rejects efforts that commoditize or reify race-based experiences and that ask students of color to relive trauma to “teach” their non-Black colleagues, a practice that can be harmful and exploitative. Medical abolition highlights the historical entanglement of race, incarceration, and medicine and the practice of pathologizing Blackness in medicine. It seeks to halt the continued subjugation of Black communities and the legitimization of violence against these groups. Case studies that include assumptions that Black patients are associated with trauma, noncompliance, or underresourced social situations reproduce historical and problematic norms.

In sum, medical abolition seeks to end racial discrimination at those moments and in those spaces where diagnostic and therapeutic practices intertwine with practices of criminalization, incarceration, and discrimination along racial lines. It calls on clinicians to become attuned to alternative modes of care and caregiving that decriminalize and build trust. Existing efforts to bring the principles of abolitionism, transformative justice, conflict mediation, and prison reform into the training

of clinicians can serve as models for this work.^{42–44} Finally, medical abolition requires efforts that move beyond diversity, equity, and inclusion initiatives that rely on checklists for inclusion without eradicating underlying stereotypes in pedagogy, clinical care, and therapeutic solutions. The second year of the REPAIR Project (academic year 2021–2022) focused on critical inquiry about how the concept of medical abolition can be applied to medical education and practice. Examples of this work can be found on the project website (<https://repair.ucsf.edu>).

Decolonizing the Health Sciences

Decolonizing the health sciences starts with eliminating the belief that race is a biological construct. Race is a scientific invention by European Enlightenment-era scientists who used ideas about racial superiority and civility versus savagery to justify colonialism.^{45–47} This racial categorization, known as “the race science,” focused on differences in morphology (e.g., cranium size and shape) and appearance (e.g., skin color, body forms) to establish a hierarchy in which Europeans were at the top and through which Black, Brown, and indigenous people could be surveilled, disciplined, and even exterminated. Decolonization recognizes that biological constructs of race are still in use and are mapped onto genetic grids. Decolonization also recognizes that race is still, and always has been, based on socially constructed categories of difference, self-assignment, reported family genealogy, or geographic origin. Most of these factors are not strongly correlated to the genes related to skin color, even if some studies have shown that genes and ancestry can play a role in a small number of heritable diseases. Even in the case of heritable diseases tied to specific populations, such as Tay Sachs disease or sickle-cell anemia, the correlation with race as a specific category is spurious, often blurring ethnicity, race, and ancestry as if they were the same.⁴⁸ Thus, the use of race as a biological or genetic given in the health sciences, even when deployed in efforts of inclusion, may unwittingly reproduce the racism that is built into these social constructs of difference. This is not to say that social practices of racism do not result in different biological effects; racism has been shown to produce differences

in health and disease susceptibility.^{49–51} For example, traumatic experiences of race-based discrimination can be rendered heritable through epigenetic modifications passed down across generations. Decolonizing health sciences research calls for recognizing the harms of racism as they manifest in different biological effects while simultaneously avoiding the assumption that race can be identified as a biological given.

Decolonizing the health sciences also calls for scrutiny of other enduring forms of racial injustice that began during colonial eras. Colonial medicine (i.e., medicine practiced by colonizing nations for and on colonized people) is often cited as one of the virtues of global colonialism, even after other justifications of imperial enterprises have long been discarded.⁵² But colonial medicine often focused on protecting the labor force for colonial economies, both to keep laborers working and to justify harsh working conditions.⁴⁶ In addition, colonies have long served as laboratories for resolving the social and medical questions asked by colonizing nations rather than those that would benefit the colonized people.⁵³ For example, American imperialism has a history of using public health programs for medical experimentation on Native peoples throughout the continental United States, local populations in the United States' overseas island colonies,^{46,54} and Black people in the American South.⁵⁴

The ongoing effects of American imperialism are still visible in former overseas island colonies such as the Philippines and Cuba^{46,54,55} and in current territories such as American Samoa, Puerto Rico, the Virgin Islands, the Mariana Islands, and Guam. Not only are problematic racial suppositions deployed in health institutions in these former colonies and current territories, but the foundational scientific logic inherited from the era of colonial medicine is often reproduced in contemporary practices of global health.^{52,56} For instance, we see this when majority Black nations are assumed to be sites for single-race pharmaceutical research rather than recognized as places that are as diverse as, if not more diverse than, the United States, both racially and genetically.⁵⁷

The effects of colonial-era racism persist and can be seen when the design and benefits of overseas health

sciences research confer largely on U.S. institutions or majority White populations rather than on the local populations in which the research is conducted, whether in relation to infectious diseases or pharmaceutical testing.^{58–60} Decolonization includes a call to refuse global health clinical trials research in populations deemed racially “other” and where access to health care is limited to enrollment in clinical trials run by overseas research entities.⁶¹ Decolonization calls for ending these ongoing forms of racial injustice by helping health sciences researchers scrutinize the premise of their research and its racial contours.

The theme of decolonizing the health sciences also tackles the challenging issue of different knowledge systems, including assumptions about basic scientific givens. For instance, scholars have shown that objectivity and neutrality are not universal, but rather they are culturally specific concepts⁶² that continue to displace other empirical ways of knowing in the world. Such assumptions made “Whiteness” an entrenched and often invisible colonial-era ideological norm that reproduced racism by concealing it in claims of empiricism. This is made clear in global health research when indigenous and local knowledge and practices are marked as empirically irrelevant to health outcomes, when research technologies are assumed to be race-neutral in their design, and when the benefits of transnational pharmaceutical research confer only on donor institutions or populations.^{58–60} To be clear, this pattern is also seen in research closer to home, as Whiteness is assumed to be the norm in algorithms and technologies used in biomedical research. Even research that has no explicit focus on race can, by way of the built-in racialization in research instruments, indirectly contribute to racial harm similar to that seen in the legacies of colonial knowledge systems.¹⁹

Finally, as scholars of colonialism have argued, decolonization should not be used to address all experiences of oppression and marginalization.⁶³ Use of the term decolonization calls for undoing the specific legacies of colonialism that persist in racialized and “othering” systems of knowledge as deployed in specific places with a history of colonialism, that have incurred specific

needs for repair, and that produce specific material results throughout unique contexts.⁶⁴ Models for decolonization can be found in efforts to bring these principles to the field of museum studies, by way of returning artifacts to their communities of origin or establishing collaborations between museums and communities of origin; in institutional efforts to take down statues, rename buildings, or rename streets; and in efforts to repatriate Native land.

Toward the goal of decolonization, there is currently a campaign calling on UCSF to return a section of university-owned Ohlone land in San Francisco. More broadly, among Native populations in the continental United States, the descendants of American slavery, and those in former overseas U.S. colonies, decolonization includes a call for moving beyond objectivist assumptions about the empirical world and optimizing the inclusion of diverse peoples and epistemological perspectives in health sciences research. In the third year of the REPAIR Project (academic year 2022–2023), we will seek to offer a forum for critical inquiry and discussion on how the concept of decolonization can be applied to medical education and training, health sciences research, and global health research and practice.

Early Outcomes

The REPAIR Project has brought 3 themes (reparations, abolition, decolonization) into wider discussion across UCSF with the goal of transforming medical education, clinical training, and health sciences research at the university and beyond. In the project's first year (academic year 2020–2021), we sponsored a series of campus forums, teach-ins, student reflection events, and curricular reforms to facilitate discussions on medical reparations; these events included active involvement by grassroots activists and community members. These efforts were geared toward campus leadership and student organizations and helped generate proposals for the concrete implementation of medical reparations at the university.

The REPAIR Project has also contributed to ongoing institutional initiatives to align medical school curricula with racial justice principles, with REPAIR Project members teaching graduate

student elective courses examining the Black experience and the legacy of incarceration in science and medicine and a medical school curriculum block on antiracism in medicine. Through these courses, students in medicine and the basic sciences engage with growing research on how to eradicate oppression in medicine. Additionally, the REPAIR Project's curriculum working group is partnering with leaders across UCSF's schools to promote the integration of this important body of work into new and existing coursework.

Additional outcomes from first-year efforts include university leadership providing funding for graduate students to continue working on the REPAIR Project. In addition, faculty members working on the REPAIR Project have received invitations to teach as part of the medical school curriculum as well as to deliver grand rounds on the project's efforts. Faculty members were also invited to stand for nomination to the California governor's Reparations Task Force. More generally, REPAIR Project members have received invitations to collaborate with groups at other universities to help develop similar programs and have received notification from various research groups that are using REPAIR Project materials in their own teaching. Finally, the university has allocated funding for 2 postdoctoral fellowships to further the work of the REPAIR Project in concert with the Office of Diversity Outreach.

Through these efforts and the resulting outcomes, university leadership has increasingly recognized the importance of including scholars and scholarship from the social sciences and medical humanities in critically interrogating medical education and scientific practice. We hope our efforts can serve as a template for interdisciplinary collaborative efforts at other medical institutions.

Repair: To What Ends?

In the medical profession, repair often refers to the body's innate process of healing as well as to beneficial clinical intervention. We recognize that, in addition to these meanings, repair is also a fraught concept that requires unpacking in relation to the history of anti-Black racism. Short- and medium-term efforts with the goal of repair to address racism

cannot fully heal the intergenerational social wounds caused by slavery and the structures of anti-Blackness left in its wake.^{65,66} We thus invoke the concept of repair in our work while acknowledging that a pre-harm status might not exist to return to, that claims to repair can freeze injuries in the historical past, and that new technologies of repair can themselves lead to new forms of harm. Following the work of critical disability studies scholars who have critiqued ableist frameworks and ideals,⁶⁷⁻⁷⁰ we seek a form of repair that is respectful of its limitations and potential side effects. We cannot undo all the damage from slavery or its legacies, but we might ask how we can live and work in new ways that reduce or even eliminate ongoing harm. The REPAIR Project helps us think about how we can: (1) do better as medical educators, clinical practitioners, and health sciences researchers; (2) acknowledge our collective complicity in histories of violence; and (3) craft a new present that works toward justice.

At UCSF, we learned that a tightly organized and passionate group of students and faculty can make impactful changes at a medical institution with amenable leadership, particularly during moments of popular protest. However, we also learned that, even under such favorable conditions, bringing critical theory concepts into medical education and practice remains a considerable challenge. A significant lesson we learned is that such change can only be achieved with participation from both institutional leadership and the social movement leadership that made the change efforts possible in the first place. While we vigorously pursue our aims with the stated purpose of transforming medicine, we remain humbled by the recognition that there can never in fact be an end to the incessant work of repair. Still, we can, and will, certainly strive to do better.

REPAIR Project Steering Committee Members:

All steering committee members are listed alphabetically by first name, including: Aimee Medeiros, PhD, University of California, San Francisco; Antoine Johnson, PhD, University of California, San Francisco; Aude Bouagnon, PhD, University of California, San Francisco; Bonnie Wong, MSc, PhD, University of California, Berkeley and Stanford Medical School; Carlos Martinez, MPH, PhD, University of California, San Francisco; Elizabeth Dzung, PhD, MD, MPH, University of California, San Francisco; Ian Whitmarsh, PhD, University of California, San Francisco; Jaleel Plummer, University of California,

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Acknowledgments: The authors thank the scholars, researchers, clinical practitioners, activists, and community members who participated in and greatly enriched each first-year REPAIR Project event. They also thank the REPAIR Project Advisory Council members for their support and invaluable input in shaping the project as well as the university leaders who provided funding for graduate student work on the REPAIR Project. In addition, the authors thank the many collaborators who made this work possible, including members of the University of California, San Francisco (UCSF) chapter of White Coats for Black Lives, the Do No Harm coalition, the UCSF Medical Cultures Lab, the UCSF Differences Matter Initiative, the UCSF Task Force on Equity and Anti-Racism in Research, the Structural Competency Working Group, the California Preterm Birth Initiative, Code Tenderloin, the National Harm Reduction Coalition, Deep East Oakland Empowering the People (DEEP) Grocery Co-op, and the Mandela Grocery Co-op. They also thank the faculty and staff members in the REPAIR Project's home department, the Department of Humanities and Social Sciences, who supported the creation and launch of this project from the very beginning. Finally, the authors extend their deepest gratitude to those who attended the first-year events, those who provided helpful feedback on these events, and those who used the resources provided on the project website as educational tools in their own classrooms.

Funding/Support: In response to first-year efforts, the University of California, San Francisco (UCSF) leadership now provides funding for graduate students in the UCSF Department of Humanities and Social Sciences who serve on the REPAIR Project steering committee.

Other disclosures: None reported.

Ethical approval: Reported as not applicable.

Previous presentations: Social Science Grand Rounds hosted by the University of California, San Francisco Department of Humanities and Social Sciences, Mission Bay Campus, October 30, 2020.

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Teaching and Learning Moments

Learning Curve



It was 5 months into my intern year, and things had been going well. I figured out how to navigate the hospital, could document notes in my sleep, and developed a hefty repertoire of ways to address common pages such as post-op nausea, pain, and tachycardia. The increase in responsibilities from medical school helped me feel validated. I was still a learner, but I could help the team in more significant ways. I was finally starting to feel comfortable. That feeling did not last for long.

It was during a night shift in the neurosurgery intensive care unit (ICU) when I got the page: “Patient brady in the 30’s, difficult blood pressure.” I was on another floor seeing patients at the time, but I called the nurse back immediately. I could sense the panic on the other end of the line. “The patient coded, they’re doing chest compressions, please come now!” I called the nurse practitioner who was covering with me that night and alerted the team as I raced toward the ICU.

When I arrived, there were 5 nurses in the room performing CPR. The one doing chest compressions looked up at me expectantly and said, “Are you the doctor?” My stomach dropped. “Yes,” I responded, attempting to mask my uncertainty. This team needed someone to

lead CPR, and I was supposed to be that person. This was my job. This was part of the responsibility that comes with wearing the letters “MD” behind my name.

In that moment, though, I forgot everything that I had been taught. Fragmented thoughts spun around my head—*Shockable rhythms. Dose of epinephrine. Time intervals. Joules of shock*. I had never been in a real code before and I was not prepared for this. I managed to ask a nurse to draw up some epinephrine and set up the defibrillator. But that was it. After 4 years of medical school and multiple rounds of advanced cardiovascular life support training, that was all I could muster. The code team arrived shortly thereafter. I watched as they flawlessly assumed leadership, designated roles, started the timer, and resuscitated the patient.

The rest of the night I continuously replayed the events in my mind. I read and reread the algorithms, fearing that the same patient would go into cardiac arrest again at any moment. But nothing else happened, and eventually the day team arrived and it was time for us to sign out. On my way out of the hospital, I ran into a coresident who empathized with my story. “It could happen to any of us,” she said. A little bit of weight was lifted.

Up until that night, so much of intern year had been about learning how to be an efficient resident that I had forgotten I also needed to be a doctor. I had been too focused on finishing progress notes before first case start, making sure consents were uploaded, calling rehab facilities for discharge planning, and negotiating with consultants to come see my patient. The list goes on. All of these tasks are necessary for patient care and become bread and butter for any resident, but they should not detract from doctoring.

My experience that night in the ICU was the wake-up call I needed. It was a reminder to shift my priorities back to the patient. It was a reminder that my job was more than check boxes and administrative tasks. Ultimately, it was a reminder that I was a doctor, and that requires a commitment to lifelong learning.

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