

Hosting the Fourth Annual Perry Outreach Program in Albuquerque, New Mexico

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The Perry Initiative was developed in 2009 to bolster the participation of women in orthopaedic surgery and engineering careers. Representatives from the organization fly to various cities in the United States to help lead an all-day event, the Perry Outreach Program, a hands-on workshop for high school-aged girls. We at The University of New Mexico (UNM) Department of Orthopaedics & Rehabilitation hosted our fourth annual event on Saturday, March 19, 2016. A group of volunteer physicians, residents, and medical and engineering students led about 35 participants in various modules and lectures. The goal of the program was to teach attendees about the intersection of medicine and engineering.

In the morning, Ann Mercer, MD (the mother of Dr. Deana Mercer, MD) intrigued sleepy teenagers with personal tales as a practicing doctor. Participants, residents, medical students, and attending physicians were all engaged in stories of mentorship, struggles, and humorous resolutions. Perhaps with a new perspective on working as a doctor, the attendees shuffled out of the conference room and into workshops on applying arm casts; dissecting a cadaveric hand (Figure 1), and using intramedullary (IM) nails and plates to mend fractured bones.



Figure 1. Ericka Garbrecht, MD, and Aditi Majumdar, MD (in green scrubs) lead the workshop on dissection of a cadaveric hand with forearm, showing participants what actually happens when you feel your pulse.

During lunch, Christina Salas, PhD, and her team of research engineers introduced into a delightful competition—featured for the first time at this year's event. Repaired bones of the IM nail module were tested for maximum strength, using a custom-made load frame (designed by several engineering students at UNM) that applied force until breakage of the bone occurred. The winning group had repaired the bone that withstood the most force (Figure 2). Deana Mercer, MD, joined Dr. Salas in explaining the clinical significance of the test: the type of fracture, region of bone surface, and angle and placement of the nail can drastically affect success of fracture treatment (Figure 3).



Figure 2. Winning group of three high-school participants (blue scrubs) and their medical-student leader, Jessica McGraw, (green scrub) after testing of the bone-implant constructs created in the IM nail module, which was spearheaded by Christina Salas, PhD (gray scrub). Shows custom-made load frame designed by engineering students Rachel Tufaro, (kneeling in black, left) Jodie Gomez, (kneeling in black, right) and Steven Nery (standing in black).



Figure 3. Christina Salas, PhD, (left) and Deana M. Mercer, MD, (right)—who together spearhead the Perry Outreach Program in Albuquerque—discuss the essential relationship between orthopaedic surgery and engineering. Reprinted with permission from the Perry Initiative.

Participants and volunteers soon transitioned into afternoon workshops, including repairing fractures of the distal radius, reconstructing torn knee ligaments, and suturing pig feet. The entire program came to a close with a question-and-answer session, which was attended by participants, their parents, and volunteers. Our next generation of biomedical professionals departed with goody bags, internship opportunities, and an understanding of the essential collaboration between surgeons and engineers (Figure 4).



Figure 4. All of the participants (blue scrubs) and volunteers (excluding those taking pictures!) of the Perry Outreach Program in Albuquerque, March 2016. Reprinted with permission from the Perry Initiative.

We wish to highlight a particular essay submitted to the Perry Initiative during the initial application process for our event, which was written by a high school student. We hope that the program in Albuquerque continues to support the goals and passions of future women—throughout all regions of New Mexico.

Having been a young girl raised in arguably some of the most rural environments within this great state, I have witnessed the cultural neglect in regards to medicine. The lack of trust, of collaboration between our culture and the modern medical field. Those long mornings high up in the New Mexican timber inspired me to take a chance and attempt to make a change in the lives of the New Mexican people. Through pursuing a career in not only medical research but practicing the art itself, I aspire to reincorporate accountable, affordable, and accessible medicine into the vibrant culture of rural New Mexico. I may be young to have such aspirations, but it is my youth and my experiences therein that propel my dreams forward with a passion.

I know that the path to success will be both a lengthy and strenuous one, which is why I have been seeking out programs that may aid me in taking the first step forward. The Perry Outreach Program is undeniably one of such key programs that can provide a link between my dreams and an educational-based reality. The opportunity to participate in this program will allow me to deepen my knowledge not only of the medical science field, but allow me to bridge the gap between education and culture. I will be surrounded by similar minds, by youths that have passions and aspirations harmonious with my own. Surrounded by people who are prepared to rise to the challenge of improving the quality not only of New Mexican medicine, but of enriching the culture of our communities.

Across this state, underservice in the medical aspect exists. Just as with any relationship, neglect to communicate can be fatal. It is simply unhealthy. Our people have lost communication with modern medicine, and many places have an inability and lack of passion to do so. However, this suffering, this neglect can be changed. But it takes more than a pill, than a drug, than any form of common treatment. It calls for a movement. For a group of individuals with passion in their hearts to band together and make a change. I am such an individual, and the Perry Outreach Program will help me meet many more.

I seek to incorporate affordable, accountable, and accessible medicine into the lives of all New Mexicans. Medicine that is affordable for the impoverished majority of our state citizens to care for themselves, for their children. To care confidently for the health and safety of loved ones without the fear of financial repercussions. Medicine that is accountable because, in times of crisis, medical professionals will offer hope to those in need, an alternative to the pain they live with. Medicine that is accessible to people living in the mountains, plains, and deserts of rural communities, so that they may obtain an interactive and beneficial relationship with medicine. A state in which medical help is localized. Where patients do not have to drive minutes, hours, or days to receive the support they crave. A state where, instead, medical aid is right outside the door, a central component of the community.

With this future blaring in my mind's eye, I desire to participate in this amazing opportunity. I know that it will provide a foundation for the building blocks I must set in place to obtain my goals for the greater good of not only my community, but my state, and my culture.

Lorena Velasquez, Junior in High School

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