

NEUROSURGERY AND NEUROLOGY INSTITUTE MISSION TRIP

Sucre and Santa Cruz, Bolivia

November 27- December 4, 2021



In November 2021, a delegation of the Neurosurgery and Neurology Institute (NNI) of Solidarity Bridge traveled to Santa Cruz and Sucre, Bolivia. The neurosurgical mission trip was led by Dr. Richard Moser. He was accompanied in Sucre by Maria Eugenia Brockmann, Lindsay Doucette, and from Puente de Solidaridad, Patricia Vargas, and Desireé Mendez. Juan Lorenzo Hinojosa joined the team for meetings in Santa Cruz. (This trip was originally planned to include work in Paraguay, but this portion of the trip was postponed due to an increase in Covid-19 cases in Asunción). The NNI delegation also delivered approximately \$68,560 worth of medical supplies and equipment to support our medical programs in Bolivia.

There were many goals for this NNI trip, including:

1. Re-establishing connections with Bolivian neurosurgery and neurology colleagues after a long pause due to pandemic travel restrictions.
2. Providing training in the use of donated neurosurgical equipment in Sucre.
3. Assisting with complex surgeries in Sucre.
4. Determining priorities for next steps in neurosurgery and neurology partnerships in Bolivia.
5. Exploring opportunities for a national microsurgery training facility in Bolivia.
6. Discussing possibilities for residency exchange or rotation in Bolivia.
7. Developing NNI associate partnerships and care centers

Hospital Santa Bárbara - Sucre, Bolivia

In Sucre, the mission team returned to visit the neurosurgery service at the Hospital Santa Bárbara led by Dr. David Gardeazabal. The neurosurgery service had recently received important neurosurgical equipment through a grant from Rotary International. The grant was completed through collaboration with the Hospital Santa Bárbara, the Rotary Club of

Chuquisaca, and Puente de Solidaridad. NNI president and medical director, Dr. Richard Moser worked with Dr. Gardezabal to examine the craniotome and the Mayfield cranial stabilization systems from Rotary. Dr. Moser demonstrated the proper set-up and use of these important neurosurgical tools through two programmed surgeries with the Hospital Santa Bárbara team. Dr. Moser also worked with others to balance a newly donated surgical microscope for use in neurosurgery. Through these efforts in equipping, training, and technical support, the Sucre neurosurgical service will be better able to serve their patients long after we return home.



Dr. Moser and Dr. Gardezabal were joined by Bolivian ENT physician Dr. Patricia Arteaga in the first surgery to remove a pituitary adenoma. The patient was suffering from the production of excessive growth hormone and acromegaly symptoms. He was originally scheduled to be included in a 2019 neurosurgical mission trip, but the trip was cancelled because of political upheaval in Bolivia following the elections. This mission trip was canceled again in 2020 due to Covid. The patient was

very happy to finally be able to access the surgery on this mission trip. Neurosurgeons in Sucre didn't have the tools or experience to perform the transnasal surgery to remove the tumor. This successful surgery was a useful training opportunity for the Sucre surgeons to gain experience in the transnasal technique. This surgery went very well, and the patient was released from the hospital after a couple of days.

The second surgical patient had a large cerebral tumor. The patient, a young farmer from a remote area outside of Uyuni, had traveled to two cities in Bolivia looking for care. Finally, when he arrived in Sucre, the doctors offered to include him in the upcoming neurosurgical mission. Our partners at Puente de Solidaridad brought an ultrasonic aspirator from Santa Cruz to Sucre for the surgery. This is an important piece of equipment that would not otherwise be available in Sucre. A Bolivian neurosurgeon, Dr. Gueider Salas and Bolivian neurophysiologist, Dr. Jose Ledezma traveled to Sucre to assist with this complicated surgery. In the end, the surgical team was only able to remove a part of the tumor due to problems with the electrical transformers in the hospital. Unfortunately, the patient will need further surgery to remove the remainder of the tumor. However, the surgery demonstrated an enormous effort in terms of human and technical resources on the part of the Bolivian and US health professionals. It also demonstrated an example of what Dr. Moser means when he says, "We only fail when we fail to try." This was a complex tumor, but the U.S. and Bolivian teams demonstrated enormous effort to provide care. The Sucre physicians will continue to follow the treatment of this patient.

While at the Hospital Santa Bárbara, the NNI and the Puente de Solidaridad teams met with neurologist, Dr. Mayra Miranda. Dr. Miranda is one of only a few neurologists in Sucre. She

showed us the EEG equipment that Solidarity Bridge donated to the Santa Barbara Hospital in 2020. There were parts that were not working, and the machine was unusable. NNI will be collaborating with the British nonprofit, TeleEEG to provide the hospital with new EEG equipment. We will continue to work with Dr. Miranda during a trip focused on epilepsy in April 2022.



The team also visited the medical school of the San Francisco Xavier University (USFX). Founded in 1624, USFX is the second oldest university in the Americas and boasts the oldest medical school in Bolivia. Speaking with the dean and academic director of the medical school we identified exciting possibilities for future collaboration. During these meetings we discussed opportunities for faculty and student exchange with US universities, a possible rotation of neurology residents from the University of Illinois

Chicago, and the possibility of establishing a micro-surgery training laboratory for students from various specialties.

The NNI team also had a dinner with the Chuquisaca Neurosurgical Society to discuss priorities for collaboration in the next few years. We also visited the Chuquisaca Oncology Institute (ICO) and the San Francisco Xavier University Hospital to discuss plans for other programs, campaigns, and missions. At the ICO, doctors said they were experiencing a backlog of patients because many avoided hospitals during the pandemic and because many hospitals were closed to “non-essential” surgeries. Meanwhile, our neurosurgical partners shared that there has been a decrease in surgical patients because so many were without the resources to pay. Whereas in the past, people would organize community fundraisers to pay for a family member’s surgery, communities were now overrun with fundraisers. And instead of one person in need of medical care, there were multiple people in each family affected by Covid or other medical issues.

Santa Cruz, Bolivia

After completing the work in Sucre, the NNI team traveled to Santa Cruz for many meetings. We first met with Dr. Gueider Salas, president of the Bolivian Neurosurgical Society. We also met with neurosurgeons and neurologists at the Children’s Hospital of Santa Cruz. During this meeting we discussed the status of a Rotary Foundation grant of EEG equipment that was still in progress. We discussed possibilities for future collaborations in pediatric neurosurgery, training in epilepsy diagnosis and treatment, and possible outcomes research on epilepsy using data they have accumulated in Santa Cruz. In Santa Cruz we also met with Incor Hospital Director, Dr. Fredy Romero. We



discussed the possibility of developing a Neurosurgical Center of Care at the Incor Hospital similar to our model for the Heart Surgery Program there.

Next Steps

Through dialogue with Bolivian and Paraguayan partners, the NNI identified the following next steps for 2022

- Cerebral Vascular and Stroke missions to Paraguay and Bolivia in April 2022
- Epilepsy Mission in collaboration with University of Illinois Chicago, TeleEEG, the Hospital Santa Bárbara Sucre, and the Children's Hospital in Santa Cruz in April 2022
- Pediatric Neurosurgery Session at Bolivian Neurosurgery Congress in June 2022
- Spine Surgery Mission in collaboration with Solidarity Medical Equipping in April 2022
- Neuro Trauma Initiative at the Hospital Santa Barbara Sucre - 2022
- Co-sponsorship of a press conference at the 2022 WFNS Conference prior to the 2022 World Health Assembly Meeting in Geneva

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Support Staff:

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