



REPORT
Advanced Cardiac Implant Training Mission
April 28 – May 4, 2013
Cochabamba and Santa Cruz, Bolivia



Pacemaker Program partner, Dr. Benjo Gareca, and U.S. electrophysiologist, Dr. Sameh Khouzam, performing a CRT-D defibrillator implant at Clínica Belga in Cochabamba.

INTRODUCTION

The Solidarity Bridge Pacemaker Program relies overwhelmingly on the year-round work of our partners in Bolivia and Paraguay, who implanted 179 pacemakers in 2012 and are on track to surpass that number in 2013. The majority of implants are single and especially dual chamber pacemakers, with a small number of more complex devices, in particular defibrillators (ICDs) and biventricular ICDs (CRT-Ds), which are heart pacing devices that include a defibrillator.

The main sites of this Program are Cochabamba and Santa Cruz, Bolivia. The implanting physicians in each city were selected through earlier mission trips in which US doctors worked alongside their counterparts to observe and upgrade their techniques. The last of these missions was in May 2011, when a training team visited our newest Pacemaker Program location in Tarija, Bolivia.

Several factors led to the decision to host a new Pacemaker Program Mission Trip to Bolivia in 2013. In late 2012, Dr. Roberto Mercado, a new implanting partner, joined our work in Santa Cruz. In addition, there is increasing demand for implantation of more complex devices, in particular for Chagas disease patients for whom a pacemaker alone is often insufficient. This need has fueled interest among our partners to upgrade their training in these procedures. Finally, Solidarity Bridge and our office in Bolivia, Puente de Solidaridad (PuenteSol), have deepened relationships with some of the local hospitals in Cochabamba and Santa Cruz where our implants take place. These institutions are very interested in the training aspect of our Program and were eager to host and learn from Dr. Khouzam, an expert electrophysiologist highly specialized in advanced cardiac devices.

GOALS

The Mission Trip had several goals:

- To provide a course in the implantation of ICDs and CRT-Ds, including the patient indications for such devices and post-surgical follow up.
- To assess and upgrade the skills of our newest partner in Santa Cruz, Dr. Roberto Mercado, in implantation surgery as well as follow-up and monitoring procedures.
- To work alongside our existing Pacemaker Program partners in Cochabamba, in particular to train them in the implantation of CRT-D devices.
- To provide life-saving pacemaker, ICD and CRT-D implants for as many patients as feasible during the mission trip period as part of the training process.
- To strengthen and expand relations of solidarity with partner hospitals in Cochabamba and Santa Cruz.
- To deliver a supply of donated pacemakers, CRT-Ds, leads, and related equipment and materials for the year-round Pacemaker Program.

PRIMARY ACTIVITIES and ACHIEVEMENTS

This mission trip was undertaken by one U.S. electrophysiologist, Dr. Sameh Khouzam, of the Dayton Heart Center. Dr. Khouzam was accompanied throughout the mission by the Executive Director of Puente de Solidaridad (PuenteSol), Carlos Laserna.

- A total of 11 cardiac implants were performed: 2 ICDs, 5 CRT-Ds, and 4 dual chamber pacemakers. Patients included 5 women and 6 men ranging in age from 45 to 68.
- Dr. Khouzam worked alongside 7 partner physicians to perform the implants, including Solidarity Bridge's primary implant partners and close colleagues in three hospital sites: Clínica Médico Quirúrgica Boliviano Belga (Clínica Belga) in Cochabamba, Clínica Incor in Santa Cruz, and Hospital San Juan de Diós in Santa Cruz.
- Dr. Khouzam presented 2 conferences on the diagnosis, procedures, and follow-up for the implantation of advanced cardiac devices. The Conferences were attended by 15 professionals in Cochabamba and 19 in Santa Cruz.
- Dr. Khouzam worked especially closely with our newest partner in Santa Cruz, Dr. Roberto Mercado, with whom he implanted 4 dual chamber pacemakers and 2 CRT-Ds. Together, they also held a pacemaker monitoring clinic for past SB pacemaker recipients. Through this

clinic, Dr. Khouzam gave Dr. Mercado hands-on training in the use of the pacemaker programming equipment for twice-yearly monitoring and adjustments.

- We delivered pacemakers, leads, defibrillators, introducers, programmers, and other equipment valued at approximately \$1 million dollars, including 46 pacemakers and 96 leads donated by Medtronic Corporation, valued at \$810,000.



PATIENT STORY

This is the story of one of the 11 patients who received a cardiac implant during this mission trip.

Angela

Angela is a 45-year-old mother of five children ranging in age from 13 to 27. Her three youngest children are still in school. Her husband is unemployed, so the couple sustains the family by making and selling straw-filled mattresses.

Angela was infected with Chagas disease at a young age, most likely while growing up in the town of Cercado, near Cochabamba. Around age 37, she began to suffer dizziness and other cardiac symptoms, leading to her first diagnosis of Chagas-related cardiomyopathy. Angela's poverty and the pressure to prioritize her children's daily needs prevented her from seeking treatment, allowing her condition to worsen. She finally began medication in March 2012, but was forced to suspend it due to an allergic reaction. By early 2013, her health had deteriorated to the point where she suffered unremitting chest pain, fatigue and light-headedness. Doctors informed her that a pacemaker implant was her only chance for survival.

Angela received her dual chamber pacemaker implant on May 2, 2013, at the San Juan de Diós Hospital. The implant was jointly performed by Dr. Roberto Mercado and Dr. Sameh Khouzam. Dr. Mercado will continue to monitor Angela's condition and make the necessary adjustments to her pacemaker through regularly-scheduled check-ups at the PuenteSol pacemaker monitoring clinic located across the street from the San Juan de Diós Hospital.

ACKNOWLEDGEMENTS

Solidarity Bridge gratefully recognizes our missionary, Dr. Sameh Khouzam, for leading the 2013 Advanced Cardiac Implant Training Mission. Thank you also to our PuenteSol collaborators, in

particular Carlos Laserna, as well as team members Beatriz Rojas, María Inés Uriona, and José Choque, for their key roles in this mission trip and in the year-round Pacemaker Program. Finally, we are very grateful for the assistance and participation of the seven Bolivian pacemaker implant partners and colleagues who participated in the implant surgeries: Doctors Luis Mercado (Director of Clínica Belga), Benjo Gareca, María Luísa Avendaño, Carlos Brockmann, Joaquin Navarro, Juan Uriona, and Roberto Mercado, as well as each of the host hospitals and their staffs.