

Amputees are given a second chance in life with 3D printed prosthetics. This is Kodogoo!

One has only to see the pictures of Kodogoo when we found her and to see her today to know that we as **Rotarians must act!** We are proposing to approach this need much like Rotary approached polio...one club at a time!

As Rotary completes the task of eliminating polio, we envision this effort as the next extraordinary accomplishment for Rotary making artificial limbs available to those in need throughout the world. We plan to establish a mobile lab much like a bookmobile but instead of books, we will equip the "limb mobile" with 3D printers, supplies, computers, and with a trained orthotic technician. Instead of spending hundreds of dollars per limb, a lower limb may cost as little as \$100.

Together we can do this! Kodogoo serves as living proof that with your help and that of others, we can change lives and enrich the future of the 10 million amputees around the world.

Thank you so much for your support of this project that truly reflects the Rotary motto, "Service Above Self".



The latest software technology is being employed for prosthetic design and production.



Mobile 3D printed prosthetic lab brings change-of-life options to the far reaches of developing nations.

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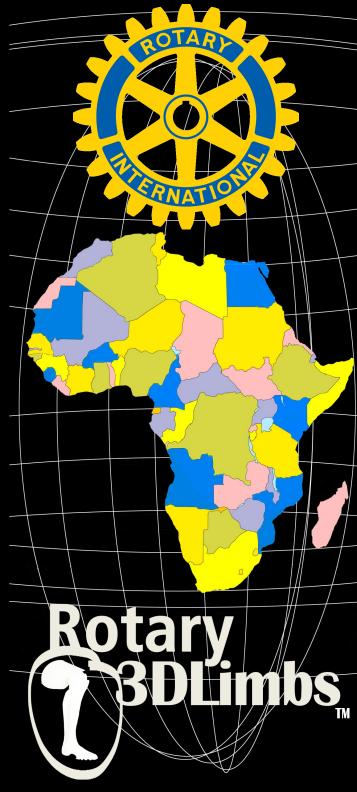
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In June of 2010 after having heard heart-breaking stories of the needs of children in Tanzania, four of us who are career educators wanted to give back to the world in a meaningful way and visited the Intel Orphanage in Arusha. We helped establish education parameters, set up



Birth defects affect thousands of babies in developing countries who require a new prosthetic every six months.

sponsorship opportunities and assisted with a handicapped child.

Kodogoo Upendo Lemutero (little one in Swahili) had been born with a deformed leg. Abandoned by the mother at birth because she thought the deformity was black magic, Kodogoo was cared for by her sister who was eight years old at the time she was born. Now not quite three, the child had little hope of survival. For several years now, we have traveled to Kilimanjaro



Christian Medical
Center/Tanzania
Training Center for
Orthopedic
Technology with
Kodogoo and saw the
unmet needs of
amputees, most of
whom could not
afford an artificial
limb.





Blake Teipel, Ph.D. of Essentium Materials, and Professor Jared Howell, M.S. CPO or Baylor College of Medicine review first generation 3D printed limb prototype.

We were reminded again of how little we could do as individuals, but how much an organization such as Rotary could do. Kodogoo is living proof of the difference it makes when medical care is available to those in need.

The world population is 6.7 billion. The incidence of amputations is 1.5 per 1000 which means that there are ten (10) million amputees worldwide. Having seen the need in Tanzania first-hand, and after looking at the data, the group made the decision to initiate a project that could result in assistance for amputees all over the world, starting with KCMC in Moshi, Tanzania. Our Lakeway/Lake Travis Rotarians met with the doctors there and a partnership was formed. 3D technology held the promise for change.

We reached out to experts at Baylor College of Medicine in Houston, Texas, and in August 2016, a partnership was formed that included our Rotary Club, Baylor and the KCMC. The collaboration of such organizations has the potential to change lives throughout the world.

With the challenge of 3D printing of artificial limbs conquered, the pressing need now is to develop a strategy to take 3D technology out of the research lab and into the community. With participation and support from throughout the Rotary community, we knew we could accomplish the goal of increased access to artificial limbs for amputees around the globe.

We intend to offer this type of help and assistance in countries where there have been extensive use of land mines, as well as to the many developing nations where medical care and assistance is not affordable or not available.

Our project, entitled Rotary 3D Limb Project, is a Call to Arms for Rotarians worldwide.



Dr. Propser Kaaya of Kilimanjaro Christian Medical Center casts a new limb socket. 3D printing takes this process from five steps to two, reducing time and cost.

Current fitting technology for lower limb prosthetics takes weeks to produce. 3D printing takes hours.