

Ambulatory Surgery Center equipment Project (CCA) of the Hospital for the Children of the Californias.

- Raise the access of the children population of the California's region to a specialized surgical care and of high complexity, through a sustainable and quality attention model, that provides their services to any patient that requires no matter their race, religion, nationality and/or socioeconomic level.

OBJECTIVES:

- **Increase the access of the children population of the Californias, which is Baja California, Mexico and our state neighbor California, USA to a specialized surgical care and of high complexity.**
- **Ensure the quality and safety of the patient in all the services that offers the Ambulatory Surgery Center of the Hospital Infantil de las Californias (Hospital for the Children of the Californias).**
- **Provide a correct surgical attention by having the correct medical equipment, which implies the acquisition of the latest in technology of sterilizer equipment for instrumental surgical, like: Hydrogen peroxide sterilizer.**

PROGRAMMED ACTIVITIES:

Activities plan:

- Purchase of equipment, the delivery time of all the equipment's is of 45 days.
- Equipment installation time: from 7 to 8 days.
- Training time: The technical training to biomedical engineering and maintenance, from 1 to 2 days and the user's operation from 4 to 5 days.

SPECIFIC OBJECTIVES TO DETAIL FOR THE PROJECT

Increase access and specialized high complexity pediatric surgical care through the updating of the sterilization equipment, which will allow us to reduce the operating expenses of the Ambulatory Surgery Center and increase the efficiency and operational capacity of the center (more surgeries = more beneficiaries).

Provide a correct surgical attention by having the proper medical equipment. Sterilizing equipment: The latest technology equipment, they have the hardware and software that process any instrument or equipment that is currently used within a surgical and hospital unit. The hardware of the sterilizers makes the corrective and preventive maintenance service fast, easy to identify faults, cheap in its parts and labor, in addition to providing greater safety to users in its operation. These qualities, together with the total process of each instrument, reduce surgical dead times almost entirely.

BENEFITED INSTITUTION

The benefited institution is the Hospital Infantil de las Californias (Hospital for the Children of the Californias), which is the only pediatric hospital certified in Baja California, It is a model institution that enjoys great community, national and international recognition. It operates with outpatient programs, outpatient surgery and preventive-educational projects.

Since 1994 the hospital has provided health services to the children from newborn up to 18 years old that requires specialized health services consult or short stay surgery according to our model, preferred that lives in the Baja California, Mexico region and in our state neighbor California, USA, no matter their socioeconomic level, nationality, race or religion. The hospital has more than 20 pediatric specialties and one ambulatory surgery center with 3 full time ORs with latest technology equipment, physical therapy area and a pharmacy. We are a Private Beneficiary Institution that as today has provided 583,000 specialty consults and has done over 17,000 short stay surgery.

APPROXIMATE CALCULATION OF THE NUMBER OF DIRECT BENEFICIARIES.

The history of the CCA dates back to 1995, when thanks to the contribution of the International Rotary Club (Rotary Foundation International, Rotary District 5340 and Rotary Club of the Golden Triangle) and Moores family, the construction of the first operating room for ambulatory surgery was possible. In 2012 the Pediatric Ambulatory Surgery Center and Specialties was inaugurated, which is called "Harland Sanders Surgery Center" in recognition of its contribution, and it is in 2016 that simultaneous surgeries were started in the 3 operating rooms of the Surgery Center.

Currently the Ambulatory Surgery Center (CCA) of the Hospital Infantil de las Californias, has three operating rooms in which more than 80 types of surgical procedures are performed in the following specialties: pediatric surgery, pediatric dentistry, ophthalmology, otorhinolaryngology, pneumology, gastroenterology, dermatology and urology. The CCA has become one of the service units with the highest demand in the hospital, where 1,918 pediatric surgical procedures were performed in 2018, with an average of 6 to 8 surgeries per day.

Taking a closer look to this statistics, the approximate calculation of beneficiaries goes from 1,500 to 2,000 beneficiaries per year. The sterilization equipment will allow us to eliminate time in the sterilization process, and increase our productivity by 60%.

¿What activities will be financed?

- Purchase of sterilizing equipment for surgical instruments, such as: Hydrogen peroxide sterilizer

¿Where the project will be developed?

The project will take place in Tijuana, Baja California, border city categorized as metropolitan city; currently the city faces challenges related with the population increase therefore with the citizen demand for efficient public services (health, security, education, and others). The city concentrates around 49.5% of the population in the state, of which, around 879,734 inhabitants is a child population (INEGI, 2015) in ages of 0 to 18 years, that is 53% of the population in the municipality is within of the spectrum of our target population.

In addition to this, its characteristic as a border city has made it a recipient of a large influx of visitors from the state of California, who based on a survey conducted in 2003, mention at least 100,000 border crossings related to the provision of medical services (Terman, 2004), following this line, there is evidence that a significant portion, 41.2% of the border population of the United States use health services and medical care in Mexico (Vargas Hernández, 2005), being the specialties in dentistry, ophthalmology and surgical procedures the services of greatest demand and interest for our visitors. Data like these, tell us about the relevance and impact that a project like this will have in the community, having a bi-national reach in its beneficiaries.

Implementation chronogram

Núm.	Activity	Duration
1:	Equipment purchase	Delivery time, 45 days
2:	Equipment installment	From 7 to 8 days
3:	Technical training to biomedical engineering and maintenance	From 1 to 2 days
4:	Operation training to medical employees and users	From 4 to 5 days

¿WHAT NEEDS WILL THE PROJECT COVER AND HOW THESE WERE IDENTIFIED?

The sterilization of the surgical instruments is a highly important activity and of maximum importance of the prevention of microbiological risks in health centers. In terms of the quality of the services provided in a hospital, these are highly influenced by the existence of an effective sterilization process, since it depends on the surgical area and the services that to a greater or lesser extent, use sterile materials and place the sterilization process as one of the key measures in the prevention and control of nosocomial infections.

In this aspect, the degree of excellence reached in this process depends of factors like the space of the hospital and the equipment, the work organization and the education level of the professionals involve in the process.

Currently the ambulatory surgery center (CCA) of the Hospital Infantil de las Californias uses 2 methods or sterilization systems: steam autoclave (physical method) and through the ethylene oxide (chemical method).

This last one mentioned, is necessary to describe that is a chemical sterilization method with significant limitations, first of all since is a highly toxic method, if is not handled in the proper way, it can have catastrophic results like carcinogenic and mutagenic for those involved in the manipulation of instruments, which presents a high risk for patients and medical personnel involved in the sterilization process, on the other hand the sterilization cycles are very long and last up to a period of 12 to 20 hours.

Related to the steam autoclave, this is a physical sterilization process which the sterilizing agent is the water steam, this is the method of excellency for the hospital sterilization because of the

advantages that offers: compatible with most of the material, except thermolabile materials (eg plastics), speed in the process, low cost and respectful with the environment, its use involves a high consumption of water, since the quality of the water should be ideal for that the steam produced is adequate and can be used in sterilization.

EXPLANATION IN DETAIL OF HOW THE PROJECT WILL ADDRESS A COMMUNITY IN NEED.

Due to the complexity, the cost of surgical procedures and the limitation of specialized professionals in the area, there is a significant lag in accessibility for the pediatric population of the region that requires timely surgical attention and intervention. In this sense, the project seeks to invest in the development of third level medicine, impacting the local health infrastructure, which allows us to provide quality services to any economic sector of the population in areas of high specialty. Without this option, the patient, mainly the one that is economically vulnerable or does not have access or should migrate to other cities that offer these services.

In order to meet this need, the institution's social purpose is to provide outpatient services, specialized hospital care and surgery to children, without distinction of race, religion, socioeconomic status or nationality, offering our services under a subsidized quota, thanks to the work of procuration carried out by its sister foundations in Tijuana, San Diego and Canada. Following these lines, the acquisition of the sterilizing units, the equipment of the Equipment and Sterilization Center (CEyE) and the purification system will allow us to increase the operative and operative capacity of the Ambulatory Surgery Center.

Description of the training or education program that would be implemented and who would teach it.

Estimated training time: from 4 to 5 days, taught by Servicientifica-Medica S.A. de C.V.

General theme:

- Chemical cleaning of instruments. (Washed)
- Preparation and packing of the instruments.
- Selection of the sterilization process according to the nature of the instruments.
- Basic concepts of steam sterilization, gas EO and hydrogen peroxid.
- Chemical and biological monitoring.

Importance of the training

Nowadays the medical advances are focused on doing surgical procedures, less invasive and faster, which is why the design of the instruments and materials are very diverse this forces us that the cleaning and sterilization equipment, must have adequate cycles, in order for the hospital to have the instruments inside the ORs just in time.

At the end of the training, users will have the technical bases to select and adapt their processes in their CEyE (Equipment and Sterilization Center) in an efficient way, according to the programming of surgeries, the most important thing is that they will be able to carry a traceability process, chemical and biological monitoring that will give us the assurance that our instruments are ready for handling by users and patients.

BUDGET

Exchange rate: USD- Dólar

PROVIDER	EQUIPMENT	DESCRIPTION	QUANTITY	PRICE	TOTAL
STERIS SERVICIENTIFICA MEDICA S.A. DE C.V	HYDROGEN PEROXIDE STERILIZER	STERIS, VPRO-MAX. 17 X 15 X 32-1/2"(432 X 381 X 823 MM), VOLUME OF 136 LITERS	1	\$126,800.00	\$126,800.00
				SUBTOTAL:	\$126,800.00
				TAX 16%:	\$20,288.00
				TOTAL	\$147,088.00

PROVIDER INFORMATION

Servicientifica-Medica S.A. de C.V. (curriculum of provider is added)

- Servicientifica is a direct distributor of STERIS since 2016, and unconditionally supports us in all the proposals and information presented to the Hospital Infantil de las Californias.
- They have certified technicians and salesmen with more than 8 years of average experience.
- They serve institutions throughout the republic as Secretary of Health, Angeles Hospitals, Secretary of Defense, Star Medical Hospitals, to name a few.
- Provide technical advice by telephone and face-to-face, providing information with the planning of areas of equipment centers and specialty or integrated operating rooms.

ATTACHED

Catalog of services of the ambulatory surgey center

Cirugía pediátrica	<ul style="list-style-type: none"> • Adenoidectomia • Amigdalectomia • Biopsia ganglionar • Biopsia rectal • Circuncisión • Frenilectomía • Hernioplastía inguinal • Hernioplastía umbilical • Hidrocelectomía • Infiltraciones • Orquidopexia • Plastía ungueal • Resección de ganglio • Resección de granuloma • Resección de quiste tirogloso • Retiro de pilomatrixoma
Oftalmología	<ul style="list-style-type: none"> • Aplicación de membrana amniótica • Blefaroplastía • Colocación de prótesis ocular • Corrección de estrabismo • Curetaje de chalazión • Dacreointubación lagrimal • Dacriocistorrinostomía • Enucleación • Evisceración • Expansión de cavidad orbitaria • Resección de Pterigion • Resección de quiste dermoide • Sondeo de vías lagrimales

Neumología	<ul style="list-style-type: none"> • Broncoscopia • Endoscopia • Extracción de cuerpo extraño • Infiltración local de antivirales • Laringoscopia diagnóstica • Protocolo de decanulación traqueal • Resección de papilomas laríngeos
Otorrinolaringología	<ul style="list-style-type: none"> • Adenoidectomía • Amigdalectomía • Biopsia tumor nasal • Colocación de tubos de ventilación • Endoscopia nasal • Extracción de cuerpo extraño • Frenilectomía • Laringoscopia diagnóstica • Mastoidectomía • Miringotomía • Otoplastia • Rinoseptoplastia • Septoplastia • Timpanoplastia • Resección de tumores • Resección de fístula preauricular • Resección de poliotias • Resección de quiste tirogloso • Resección de cornetes • Excisión de pólipos nasales
Gastroenterología	<ul style="list-style-type: none"> • Endoscopia de tubo digestivo superior • Colonoscopia • Resección de tumores • Toma de biopsias • Extracción de cuerpo extraño

<p style="text-align: center;">Cirugía plástica y mano</p>	<ul style="list-style-type: none"> • Amputación de falange • Colocación de expansores • Desindactilización • Liberación tendinosa • Otoplastia • Plastia pabellón auricular • Reconstrucción de microtia 1er tiempo • Reconstrucción de microtia 2do tiempo • Reconstrucción de microtia 3er tiempo • Resección cicatriz • Resección de dedos supernumerarios • Resección de poliotias • Rinoplastia • Toma y aplicación de injerto
<p style="text-align: center;">Labio-paladar</p>	<ul style="list-style-type: none"> • Cierre de fístula palatina • Colgajo faríngeo • Colocación de distractores mandibulares • Corrección de labio y nariz • Frenilectomía • Impresión palatina • Infiltraciones • Toma y aplicación de injerto óseo • Palatoplastia • Queiloplastia • Rinoplastia • Rinoseptumplastia

Traumatología y Ortopedia	<ul style="list-style-type: none"> • Alargamiento de tendón de Aquiles • Tenotomía del tendón de Aquiles • Acetabuloplastia • Reducción abierta de cadera • Reducción cerrada de cadera • Artrografía de cadera • Artroscopia de rodilla • Biopsia muscular • Colocación de aparatos inmovilizadores bajo anestesia • Liberación tendinosa • Epifisiodesis • Miotomía de aductores • Osteotomías realineadoras • Astragalectomía • Resección de dedos supernumerarios • Retiro de material de osteosíntesis • Transposición tendinosa • Resección de tumores óseos • Resección de tumores de partes blandas • Toma y aplicación de injerto óseo • Reducción abierta de fractura • Reducción cerrada de fractura • Colocación de clavo centro medular • Colocación de fijador externo óseo
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