ROLE OF MOBILE SURGERY IN GLOBAL HEALTH

Dr. Edgar B. Rodas, MD, FACS
President, CINTERANDES Foundation
Co-Director of VCU Program for Global Surgery
DISCLOSURE

President of CINTERANDES Foundation

Associate Professor of Surgery
Division of Acute Care Surgical Services
Co-Director of Program of Global Surgery
VCU Health
Overview

• Background & History
• Challenges → Opportunity
• Mission, Vision & Principles
• Program Structure & Organization
• Logistics & Modus Operandi
• Results & Accomplishments
• Conclusions & Recommendations
• Future Perspectives
Background

283,520 Km² (109,483 sq mi)

16,027,000 Population
Challenges

• Rural & Remote Locations
• Facilities
  – Inadequate infrastructure, equipment & supplies
  – Personnel lack skills & experience
  = Problems beyond local capabilities
• Poor coordination & alignment of efforts → fragmented services (Public, NGOs)
Challenges

• 3 Delays in surgical care

  Delay #1 - Seeking Care
  Delay #2 - Reaching Care
  Delay #3 - Receiving Care

• Social, Cultural, Language & Communication

• Many surgical conditions untreated

THE LANCET

Global surgery 2030: evidence and solutions for achieving health, wealth, and economic development
The Lancet Commission on Global Surgery

5,000,000,000
Lack access to surgical care

An additional 143 million surgeries are required

25% will experience financial catastrophe

28-32% of the global burden of disease can be attributed to surgically treatable conditions
LCoGS Key Messages

1. 5 BILLION people cannot access safe surgery when needed
2. 143 Million more procedures needed annually at a minimum
3. 33 Million individuals face catastrophic expenditures paying for surgery and anesthesia annually
4. Investing in surgery is affordable, saves lives & promotes economic growth
5. Surgery is an indivisible, indispensable part of health care
The Idea !!!

“ MOBILE SURGERY ”
CINTERANDES Foundation

Vision

To provide accessible, equitable, and quality healthcare services to remote and underserved populations
Mission

To reach remote and underserved populations in Ecuador to provide surgical care and other services that can contribute to human development.
DESEARROLLO HUMANO

LIBERACIÓN DEL POTENCIAL HUMANO Y CALIDAD DE VIDA

PRESEVACIÓN DEL MEDIO AMBIENTE

PARTICIPACIÓN COMUNITARIA

EDUCACIÓN

ALIMENTACIÓN

VIVIENDA

VESTUARIO

RECREACIÓN

TRABAJO

COMUNICACIÓN

LIBERTAD

SALUD
Other Challenges

• Outside hospital environment – MSU
• Adapt to each location
• Human Interactions
• Perceived as going to practice
• Idiosyncrasies
• Itinerant Vs. Intermittent
  – Follow-ups
  – Complications
Program Structure & Organization

• Headquarters - Cuenca
• Referrals
  – Word of mouth - PCPs
  – Coordination w/local health ministry
• City surgeries, Short & Long Surgical Missions
• Travel (MSU & Team)
• Staff & Volunteers
Logistics & Modus Operandi

• Requests
• Screen patients
• Identify needs – supplies
• Team briefing
• Set up Pre-op Clinic - patient selection/turn down
• Schedule cases
• Pre-op – Surgery – Post-op care – PROTOCOLS!
• Discharge – anticipate/prevent complications
• Follow-ups
Adequate patient selection!

- ASA Criteria
- BMI < 33
- Complexity of surgical procedure
- Postoperative care
- Resources available
- Nearest Hospital
Headquarters - Cuenca


Shuar Community of Chumpias, Morona Santiago
MANUAL DE PROCEDIMIENTOS

CIRUGÍA MÓVIL

3a edición

Autores:
Dr. Edgar Rodas Andrade
Dra. Anita Vicuña Pommiér
Dr. Juán Carlos Salamea Molina
Dr. Luis Flores Sigüenza
Dr. Edgar Rodas Reinbach
Dr. Alberto Quezada Ramón
Dr. Fernando Córdova Neira
Protocols
# RESULTS

- Budget - $$
- Missions - > **1,082** (Feb 2018)
- Provinces – **19/24**
- Distance traveled – 230,000 Miles
- Number of Cases – **8,170**

<table>
<thead>
<tr>
<th>OPERATION</th>
<th>#</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>GENERAL SURGERY</td>
<td>4834</td>
<td>59.2</td>
</tr>
<tr>
<td>UROLOGIC SURGERY</td>
<td>1770</td>
<td>21.7</td>
</tr>
<tr>
<td>GYNECOLOGIC SURGERY</td>
<td>1050</td>
<td>12.9</td>
</tr>
<tr>
<td>RECONSTRUCTIVE SURGERY</td>
<td>371</td>
<td>4.5</td>
</tr>
<tr>
<td>OPHTHALMOLOGICAL SURGERY</td>
<td>130</td>
<td>1.6</td>
</tr>
<tr>
<td>ENT</td>
<td>15</td>
<td>0.2</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>8170</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

- Telemedicine – Pre-op/Intra-op/Post-op
- Safe Surgery Initiatives – Continuum
- Visiting professors, residents & students
- Research & Publications
Complications


Background

Earthquake April 16\textsuperscript{th}, 2016

- Magnitude 7.8
- 691 dead
- 248 missing
- 113 rescued
- 6,274 injured
- 28,775 homeless
MSU Used as a “Trauma Room”

Role Of A Local Non-Profit Organization In The Immediate Aftermath Of An Earthquake In The Coast Of Ecuador: Lessons Learned. XXX Panamerican Clinical Congress of Trauma, Critical Care and Emergency Surgery. Mexico City, Mexico. November 2017. Oral Presentation

* Winner of Disaster Scholarship
Mobile Surgery Advantages

• Patients are taken care of within their own environment
• Excellent results
• Acceptable complication rate
• Community Participation
• Simplicity
• Reduced cost
• “Espirit de Corps”
Mobile Surgery in Global Surgery

• MS overcomes the 3 delays in surgery and anesthesia care
  1. Delay in Seeking help
  2. Delay in Accessing care
  3. Delay in Obtaining care

• Reaches many geographical areas, remote and underserved


Mobile Surgery in Global Surgery

• Can be utilized to provide relief to current system when surgery backed up or special surgical services
• Can perform emergencies that arise
• Can be used for Disasters
• Can seamlessly integrate other healthcare areas into surgical and anesthesia care
• Community health surveys and needs assessment
Additional Opportunities

• Teaching
• Research
• Rich cultural experience
• Understand Surgical needs of a broad geographical areas
• Primary Care Activities (actively & passively)
• MS in other Platforms

Cody McHargue, Surgical Relief efforts promote primary care actions American Association of Family Physicians Symposium in Houston. American Academy of Family Physicians Global Health Workshop 2017 (Poster)
MISSION 2 HEAL
IN MEMORIAM: DR. EDGAR RODAS

good friend, superb physician, and pioneer in mobile surgery to the world’s neediest people
Lessons Learned

• Organization and Structure are key for success
• Partnership with government - not compete
• ID/Coordination with local champions - Community
• Adequate patient selection
• Protocols & Processes - QI
• Task-sharing > Task-shifting
• Contingency plans - Expect the unexpected
• Linking MS with other healthcare programs
  – Mobile Surgery is an opportunity for Primary Care
  – Other areas of Healthcare & Human Development
• “Think outside the box” - Embrace new experiences and technology – Constant discovery!
Future Perspectives & Improvements

• New Unit
• Search for Grant & funding opportunities
• Better documenting - fortify data base - EMR
• Searching for meaningful indicators/metrics
  – Costs
  – Meeting surgical needs
  – Distance traveled by patients, satisfaction, etc.
• Improve Research - outcomes and impact
Conclusions & Recommendations

• Mobile Surgery a proven method of delivering quality surgery and anesthesia care 24 years.
• Mobile Surgery has conquered lack of access to surgical and anesthesia care → Overcome 3 delays of access of surgical care:
  – Delay in Seeking care
  – Delay in Reaching care
  – Delay in Receiving care
• Able to carry out Essential Surgical Care
  – Elective – Preventive Surgery
  – Emergencies - 3 Bellwether procedures -
Leadership is practiced not so much in words as in Attitude and Actions.
ROLE OF MOBILE SURGERY IN GLOBAL HEALTH

Dr. Edgar B. Rodas, MD, FACS
President, CINTERANDES Foundation
Co-Director of VCU Program for Global Surgery
edgar.rodas@vcuhealth.org