Congressional Global Health Caucus:
Delivering and Teaching Reconstructive Surgery

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CMO – ReSurge International
Professor and Chief of Plastic Surgery, Stanford University
The Dilemma

Time and Money

One cleft lip repair or one burn reconstruction?

Vaccinating 100 children?
ReSurge International (formerly Interplast)  
REconstructive SURGEry International

ReSurge’s goals:
- Build surgical skills
- Increase access
- Restore function
- Improve lives

105,000+ surgeries
Stanford roots,  
First organization of its kind

13 countries on 4 continents served
6,636 hours donated by medical volunteers
89% of our patients are children
4,535 surgeries provided

2,904 patients treated
71 medical professionals taught
88% of surgeries performed by developing world partners
45 years since establishment
Today’s Briefing:

I. Brief Background on Reconstructive Surgery
II. Current Global Need
III. ReSurge’s Response: Increase Access via Teaching
I. What is Reconstructive Surgery?
Background on Reconstructive Surgery

- A branch of surgery concerned with the repair, restoration, or improvement of lost, injured, defective, or misshapen parts of the body chiefly by transfer of tissue

- Each patient is different; multiple operations exist for each defect.
  - Treatment tailored to the individual patient

- Teaching
  - Depends on resources available
  - Techniques require dedicated years of training
  - Imagine a world where these surgeries are available to all
Simple Skin Graft
Complex microsurgical transplant of nerve and muscle
Restoring function by performing All of Reconstructive Surgery
Long-term result of surgery
There are more than 95 million children living with a disability. Fewer than 10 percent attend school.

Every 3 minutes a baby is born with a cleft.

Every 3 seconds someone is severely burned —10 million+ people annually in developing countries.

II. Current Global Need
The Current Global Need for Burn Reconstruction

• Burn trauma is an extremely common source of injury and disability that causes 11 million injuries and over 200,000 deaths per year.

• The vast majority of which are borne by women and children in the developing world.

WHO Burns Fact Sheet, 2014
Scar contracture and repair from hand and arm burn

Benefit: a lifetime of independent hand function
The Current Global Need for Congenital & Trauma Reconstruction

- Five in 100 children in Vietnam are born with an abnormality.
- More than 400,000 are injured annually in traffic accidents.
- Many of these children have disabilities repairable with reconstructive surgery.

*RMHC ReVAST Grant, 2014*
Child born with a cleft hand

Benefit: a lifetime of assimilation and function
Surgery can prevent deaths and disabilities – and is cost-effective when accounting for a lifetime of function.
III. ReSurge’s Response: Increase Access via Teaching

Provide reconstructive surgical care for poor children and adults who lack access

Build surgical capacity in developing countries
III. Evolution of Resurge: ReSurge Global Training Program

1. Flying one patient to US for treatment

2. Sending surgery team to developing country for 2 weeks

3. Supporting outreach partners in country to perform surgery year-round

4. Training the next generation of reconstructive surgeons in many countries
ReSurge Global Training Program

- Use a comprehensive, standardized curriculum and certification program
- Strengthen reconstructive surgery training programs in low-resource settings
# ReSurge Department of Plastic Surgery: Academic Faculty

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<tr>
<th>Cleft and Craniofacial</th>
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<td>Rohit Khosla - <em>Stanford University</em></td>
<td>Matt Donelan - <em>Harvard University</em></td>
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<td>Joe Losee - <em>University of Pittsburgh</em></td>
<td>Gary Fudem – <em>University of Washington</em></td>
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<td>Rick Redett - <em>Johns Hopkins University</em></td>
<td>Larry Gottlieb - <em>University of Chicago</em></td>
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<td>Helena Taylor - <em>Brown University</em></td>
<td>Yvonne Karanas - <em>Stanford University</em></td>
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<td>Steve Sullivan – <em>Brown University</em></td>
<td>Matthew Klein - <em>Stanford University</em></td>
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<td>June Wu - <em>Columbia University</em></td>
<td>Joseph Molnar - <em>Wake Forest University</em></td>
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<td>Mitch Stotland – <em>Sidra Medical Center, Qatar</em></td>
<td>Shankar Rai – <em>Kathmandu Model Hospital</em></td>
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<td>James Chang - <em>Stanford University</em></td>
<td>Mike Bentz - <em>University of Wisconsin</em></td>
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<td>Kevin Chung - <em>University of Michigan</em></td>
<td>Thomas Davenport – <em>Long Island Plastic Surgery</em></td>
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<td>Jeff Friedrich - <em>University of Washington</em></td>
<td>Charles Thorne – <em>New York University</em></td>
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<td>Warren Hammert - <em>University of Rochester</em></td>
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<td>Vincent Hentz - <em>Stanford University</em></td>
<td>Deepak Narayan - <em>Yale University</em></td>
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<td>Subhro Sen - <em>Stanford University</em></td>
<td>Tan Bien Keem - <em>Singapore General Hospital</em></td>
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<td>David Megee – <em>University of Cincinnati</em></td>
<td>David Young - <em>University of California, San</em></td>
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## Milestones for trainees and partners

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Office: kushaeron@yahoo.com
Impact of Training

Career lifetime of reconstructive surgeon is 30 years

Average reconstructive surgeon performs 15,000 surgeries during career

Cost per surgery in most developing countries is $400 per reconstructive surgery

Total career lifetime value resulting from training one surgeon is $6,000,000 in medical services over 30 years
Plastic Surgery Ward (32 bed)
Kathmandu, Nepal

Site: Nepal Cleft & Burn Center

ReSurge Partner since 1999
Dr. Shankar Man Rai, Director Emeritus,
ReSurge Surgical Outreach Program
Kathmandu, Nepal
Training the first generation of reconstructive surgeons in Zimbabwe!
Global Surgery

• The need is great
• The skills necessary to save and improve lives are available
• Delivering and teaching surgery to the developing world can be cost-effective in the right models
Thank You!

jchang@resurge.org