



Health Volunteers Overseas

HONDURAS
MEDICAL MISSION
NOVEMBER 2014



Quick facts about Honduras

- ◉ 8.2 million people
- ◉ 1.1 million live in Tegucigalpa
- ◉ Tegucigalpa elevation 3-4.8K feet
- ◉ World's most dangerous airport
- ◉ World's highest murder rate





2008 TACA crash



View of Tegucigalpa from my hotel room





Health Volunteers Overseas

Transforming Lives Through Education

- Non-profit global health organization
- Doctors, dentists, nurses, therapists



500+

VOLUNTEERS EVERY YEAR...

80 PROJECTS



26 COUNTRIES

7,700 DAYS

Worth of professional health care teaching, training
& mentoring donated by volunteers in 2013



Health Volunteers Overseas
Transforming Lives Through Education

“HVO volunteers build local capacity by providing health care professionals in resource-scarce countries with the knowledge, skills and abilities they need to address the health care needs of their communities.”

Generous donations

- 21 boxes of Integra dermal matrix to treat burns and soft tissue defects
- Estimated value of \$750,000
- Thank you Integra



Microsurgical instruments

donated by Dr. Ericka Lawler and University of Iowa



My duffel bag filled with close to \$1M of medical supplies was stowed in this supply closet, next to the washer/dryer



Our hosts: Dr. Karen Medina and Dr. Emerson Medina (not related), the only plastic surgery fellows in Honduras



Hospital Escuela



- ◉ The largest teaching hospital in Honduras
- ◉ Produces 0 or 1 plastic surgeon/year
- ◉ Produces 2 orthopaedic surgeons/year





Emergency Room entrance





Hospital Security was ample



**Armed security checkpoint 1
to enter the grounds**



**Armed security checkpoint 2
to enter the hospital**



**Armed security checkpoint 3
– to enter stairwell**



**Armed security checkpoint 4 –
to enter the operating rooms**

Secure resident on call rooms





A typical operating room





Our surgical team: Visiting surgeons Drs. Lawler and Moss, Fellow Dr. Karen Medina, medical students Jose and Maria, and our 2 nurses



Drs. Lawler and Medina repairing a lacerated nerve



The nurses taking a break between cases



OR staff folding gauze



Recovery room









An older style traction table



Radiolucent x-ray table from a previous era

Supply rooms were packed with donated equipment



List of fractures waiting for surgery

# DE CAMA	NOMBRE DEL PACIENTE	MEDICO	DIAGNOSTICO	PLAN QUIRURGICO	F. DE I.
4	Gabriela Martínez	Dra Ochoa	Fx Supracondilea Femoral	RAIOS pla. particular distal	13/09/14
14	Genoveva Enriquez	Dra Ochoa	Fx Intercondilea Ligam	RAIOS TDC 155°	29/9/14
8	Suyapa Melghem	Dra Ochoa	Fx Femoral en hueso Patológico	RAIOS pla. particular proximal femur	09/09/14
12	M ^{re} Jesus Alvarado	Dra Ochoa	Fx Transcondilea	Intercondilea T. distal	21/9/14
6	Hector Ferrufino	Dra Ochoa	Fx Exp GIII A Femur 129	Intercondilea	10/09/14
26	Gerardo Zepeda	Dr. Idiaquez	Fx Exp GIII A Femur 129	Intercondilea	25/9/14
24	Hilda Badden	Dr. Lainiz	Masa Distal de Femur	Intercondilea	10/09/14
8	Fredy Sanchez	Dr. Lainiz	Fx diaf. anal. de hueso femur Fx Basecervical Femur 129	Tornillos conulados Espuma de yeso	02/09/14
23	M ^{re} Martinez	Dr. Vindel	Fx Exp GIII A Femur 129	RAIOS TDC 155°	25/9/14
29	M ^{re} Saravia	Dr. Vindel	Fx Exp GIII A Femur 129	Brigada de Mano	28/9/14
10	Marina Casco	Dr. Vindel	Fx Intercondilea Codex I	RAIOS TDC 155°	24/9/14
15	M ^{re} Garcia	Dr. Idiaquez	Fx Intercondilea Codex I	RAIOS TDC 155°	26/9/14
15	Alfonso Aula	Dr. Idiaquez	Fx Exp GIII A Femur 129	RAIOS Pla. Volar	21/9/14
2	Dorion Maldonado	Dr. F.	Fx Plat. "Libro"	RAIOS Pla. Reparat.	26/9/14
31	Marlon Cuevas	Dr. Idiaquez	Fx Codex	RAIOS Pla. Reparat.	09/09/14
4	Byron Sculla	Dr. Flores	Luxa L. Front	Remanipular	11/10/14
1	Juba Cesar Moreno	Dr. Flores	Fx Intercondilea	RAIOS TDC 155°	29/9/14
28	José Angel Martínez	Dr. Lainiz	Fx Exp tibia y Peroneo	Intercondilea	21/9/14
	Regina Mandrigo	Dr. Lainiz	Fx Transcondilea Codex I	Protesis Partial Codex	29/9/14

A typical patient room: 5 men per room, many in skeletal traction



Nice view of the hills of Tegucigalpa from the top of the hospital



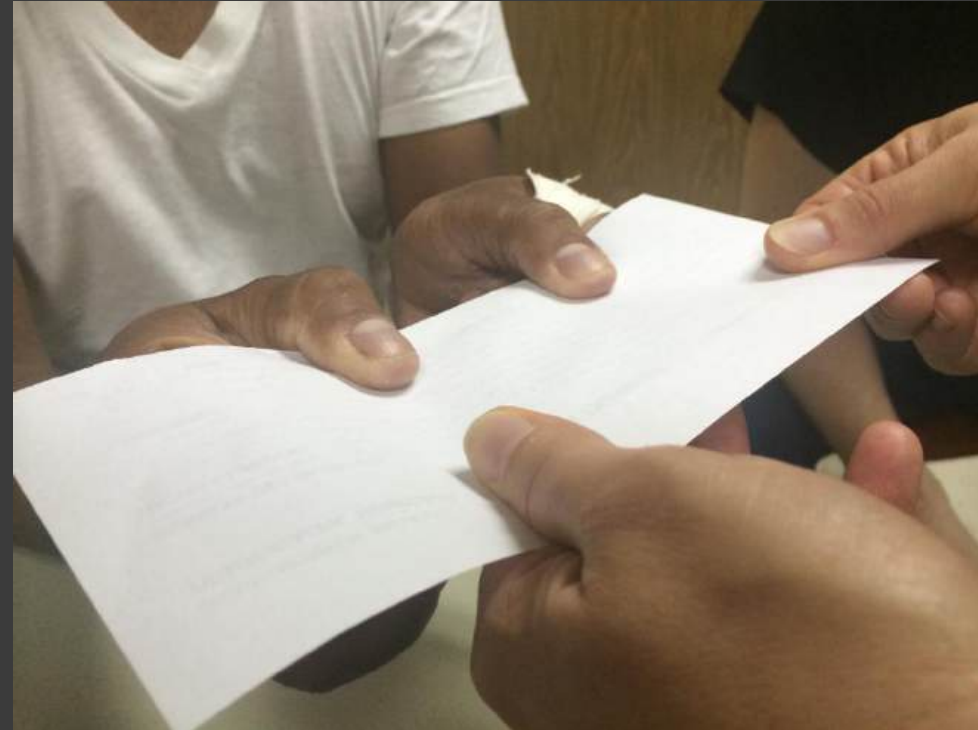
THE PATIENTS

Machete to face, neck, chest, left arm. Posterior interosseous nerve laceration with wrist/finger drop



We repaired the PIN
primarily

Machete ulnar hand – FCU and ulnar nerve laceration



Froment's sign



Repaired ulnar nerve and
FCU

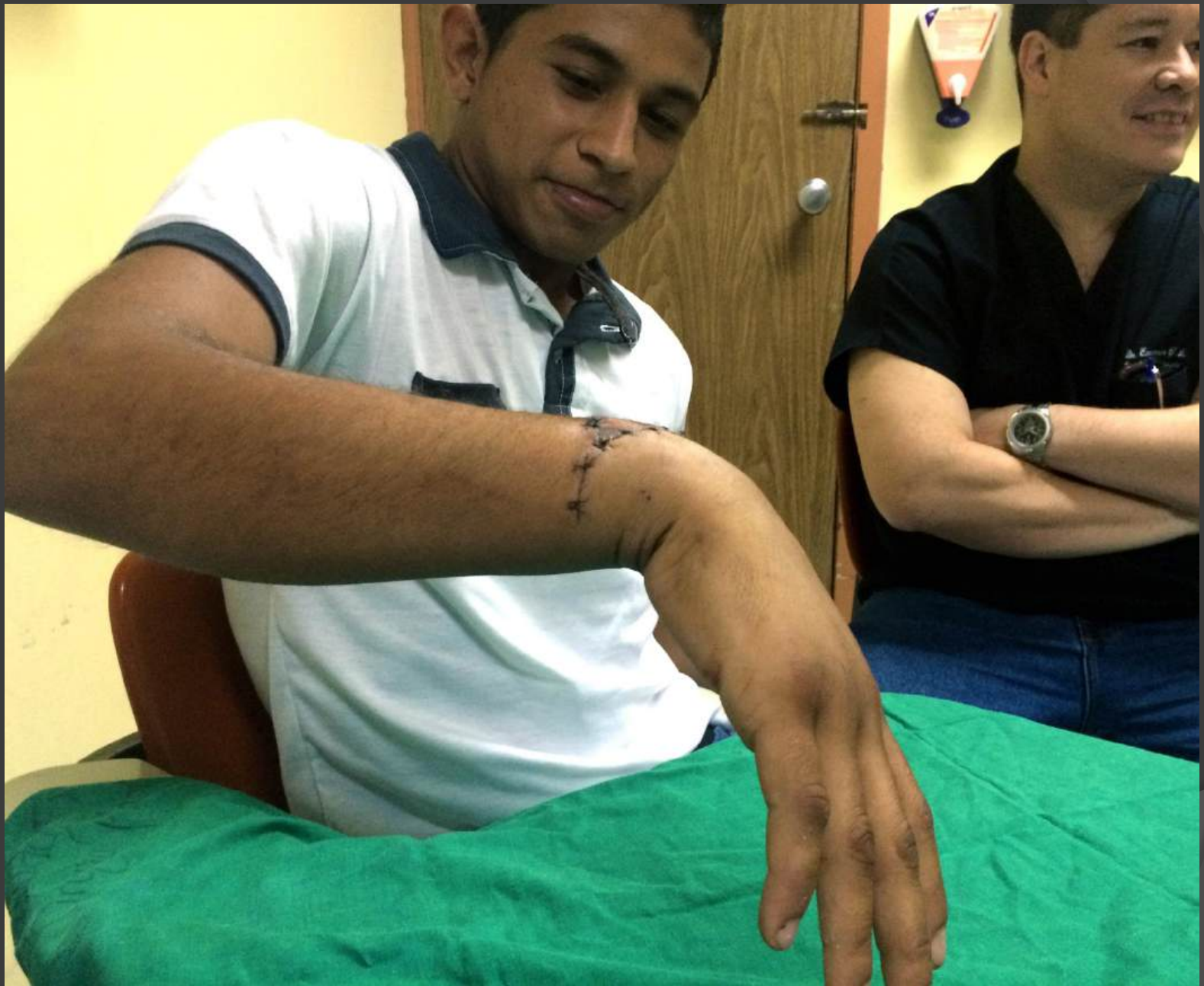
Machete to thumb, MF, RF



We repaired the flexor
tendons and digital nerves

Machete to wrist – all finger and wrist extensors lacerated





We performed primary repair.
All 12 extensor tendons were
repaired.

Machete to wrist – EPL laceration



Lacks thumb extension



We repaired the EPL

Machete to wrist – flexor tendon and median nerve lacerations



**We repaired the flexor
tendons and median nerve**

GSW to 3rd metacarpal



Banjo traction with a coat hanger treated prior to my arrival by Hospital Escuela ortho residents



Rollover MVA with open BBFFx and large soft tissue defect





**Injury treated prior to my
arrival by Hospital
Escuela ortho residents**



**Initial ex fix (performed
without fluoroscopy)**

ORIF



Fracture fixation performed prior to our arrival. We rotated muscle and performed STSG to provide skin coverage

MCA 2 years ago



- Dorsal 1st web tissue loss
- Resultant 1st web adduction contracture
- Groin flap performed by Brook Army docs 1 month prior to my arrival









- Adduction contracture release and pinning of the 1st and 2nd metacarpals
- Debridement and contouring of the groin flap

Myself, Dr. Medina, & Maria



GSW 1st metacarpal, IF & MF





Ex fix and perc pins performed
by Hospital Escuela ortho staff
prior to our arrival

Burn to hand



No intervention at this time



Adequate extension



Full fist



Syndactyly and cleft hand





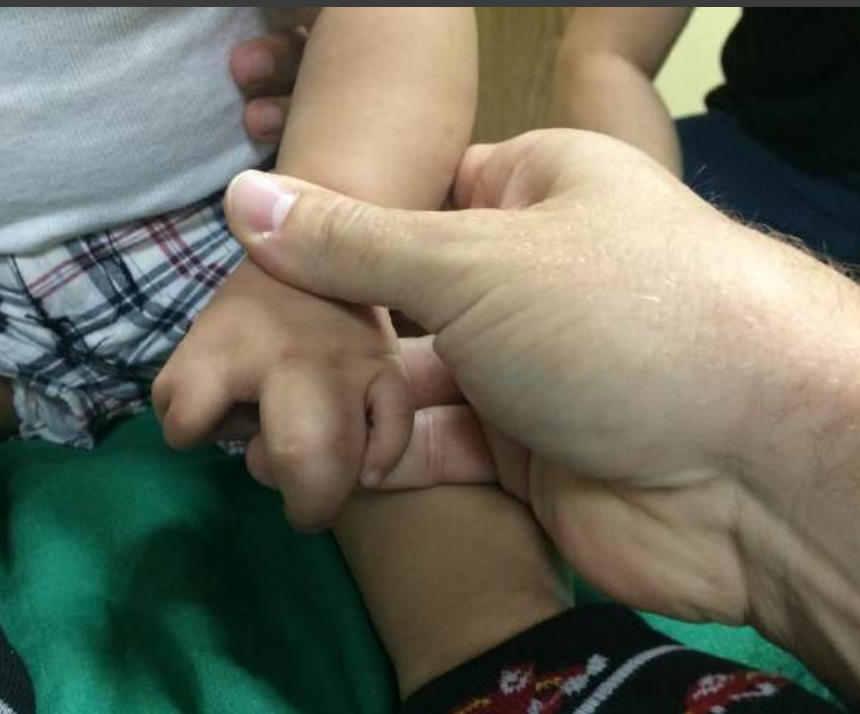




Surgery was delayed due to
pediatric anesthesia shortage

Polydactyly and syndactyly







**SCHEDULED SURGERY
CANCELED DUE TO
HOSPITAL ANESTHESIA
SHORTAGE**

Machete to arm – high ulnar nerve laceration



Wasting and clawing



Plan

- Ulnar nerve tendon transfers
- To be performed on a future mission



Machete attack

- R below elbow amputation
- L segmental median and ulnar nn laceration
- L segmental flexor tendon lacerations
- Multiple open metacarpal fractures





Acute care prior to my arrival

- K-wire fixation of the metacarpal
- Rudimentary tendon and nerve repair by the ortho team
- Volar soft tissue loss
- At the wrist



Plan

- Exploration and repair of tendons and nerves
- Volar soft tissue coverage with Integra dermal substitute

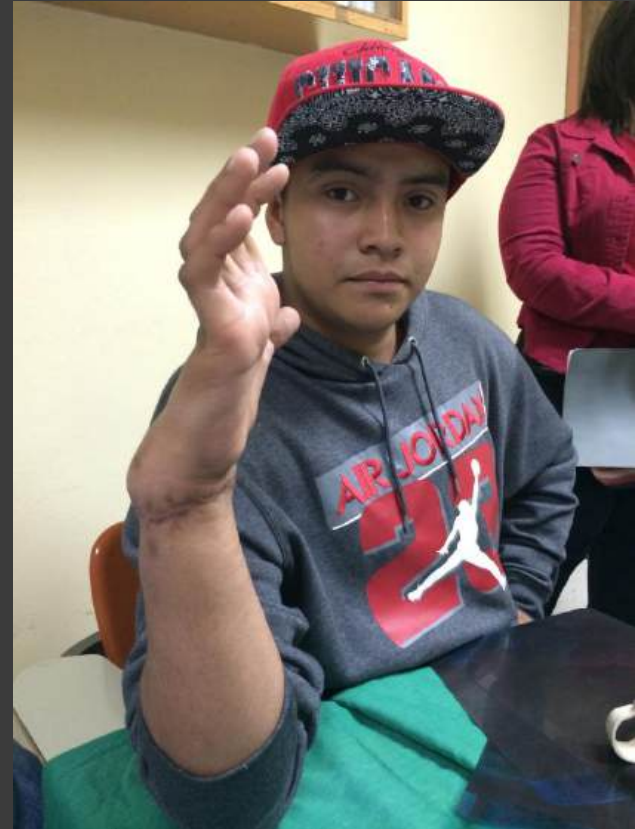




Machete to wrist



Low ulnar nerve
laceration
FCU laceration



Claw hand



Open distal ulna and radius fractures



Treated acutely by ortho before
our arrival with ORIF – no soft
tissue repair



**We performed ulnar nerve
repair and flexor tendon repairs**

Guitar player with burn – severe PIP joint contractures





**PATIENT DECLINED
TREATMENT
HE COULD STILL PLAY THE
GUITAR WITH HIS EXISTING
CONTRACTURE**

Dupuytren's contracture





Dr. Medina dissecting the contracture while I retract for her



After releasing the contracture



Scaphoid proximal pole fx



Regional block



A challenging ORIF with a hodge podge of drills, taps, screwdrivers, etc, but ended up well







- “Thumbs up” from a happy patient up on the ortho floor after scaphoid ORIF

Farewell dinner – Dr. Medina, Dr. Ochoa, Dr. Lawler, Dr. Moss, Jose MS4 and his wife



Hasta la vista, Tegucigalpa!

