



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





“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 Martinez	Dra Ochoa			
14	Carmen Eva Enriquez	Dra Ochoa	Fx Supracondilea Femoral	RA/TOS placa percuticular distal	13/09/14
8	Suyapa Melghem	Dra Ochoa	Fx Intercanicular Lumen	RA/TOS TDC 135°	23/09/14
12	M ^o Jesus Alvarado	Dra Ochoa	Fx Femoral en hueso Patologico	RA/TOS placa percuticular proximal Femur	01/09/14
16	Hector Ferrufino	Dr Ochoa	Fx Transversal rodilla	Injerto óseo	21/09/14
26	Garcido Zepeda	Dr. Idiagquez	Fx Esp. 6 III A Femur 12g Inmovilidad.	Injerto óseo	10/09/14
24	Hilda Bedden	Dr. Lainiz	Musa Distal de Femur	Injerto óseo	25/09/14
8	Freddy Sanchez	Dr. Lainiz	Fx diaf. epifisaria de riñoneros Femur Fx Base cervical Femur 12g	Tornillos convolados Esponja de yeso +	10/09/14
13	M ^o Martinez	Dr. Vindel	Fx Esp. 6 III A Femur	Cártel Placa Perforadora	23/09/14
29	M ^o Saravia	Dr. Vindel	Fx Esp. 6 III A 1 ^{er} MTC	Brigada de Mano	28/09/14
10	Marina Casco	Dr. Vindel	Fx Intercanicular Caderas I	RA/TOS TDC 135°	24/09/14
15	M ^o Garcia	Dr. Idiagquez	Fx Intercanicular Caderas I	RA/TOS TDC 135°	26/09/14
15	Alfonso Aula	Dr. Idiagquez	Fx Esp. 6 III C Rodilla y Cadera	RA/TOS Placa Volar	27/09/14
9	Dorion Melchor	Dr. F.	Fx Plat. Tibias	RA/TOS Placa Perforadora	26/09/14
31	Mariam Cuevas	Dr. Idiagquez	Fx Colgajos	RA/TOS placa Placa Volar	09/09/14
4	Byron Scilla	D. Flores	Luxoza Lis Fract	Manipular	11/10/14
1	Julio Cesar Moreno	D. Flores	Fx Intercanicular	RA/TOS TDC 135°	23/09/14
28	José Angel Martinez	D. Lainiz	Fx Esp. Tibia y Poco I	Injerto óseo	21/09/14
	Regina Maadiaga	D. Lainiz	Fx Transversal Caderas I	Protesis Parcial Cadera	23/09/14

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



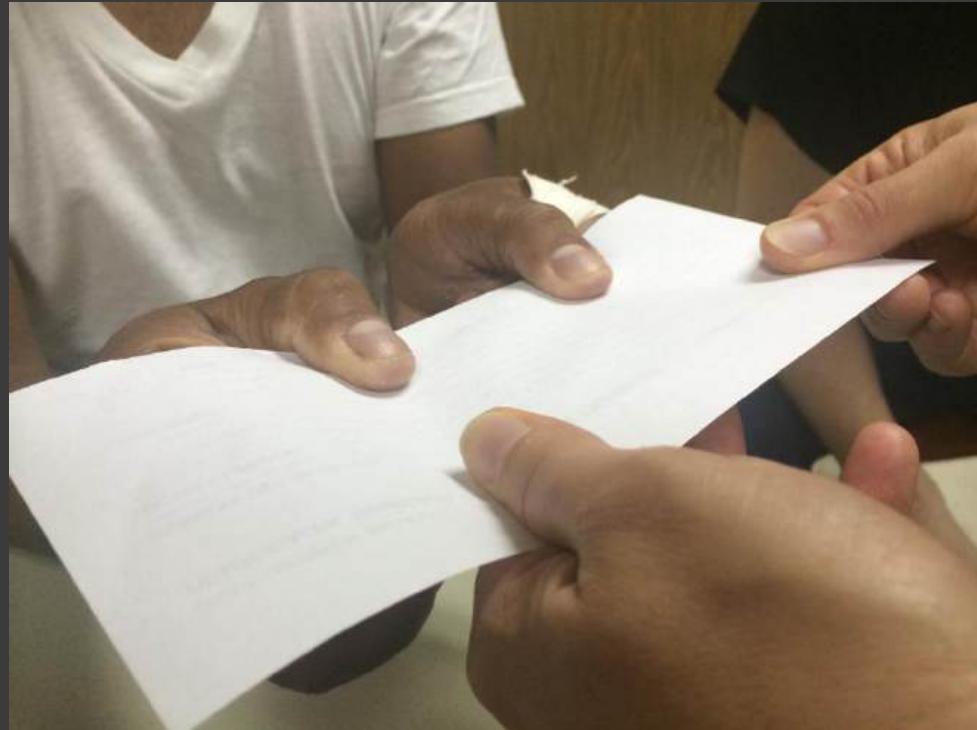
THE PATIENTS

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**

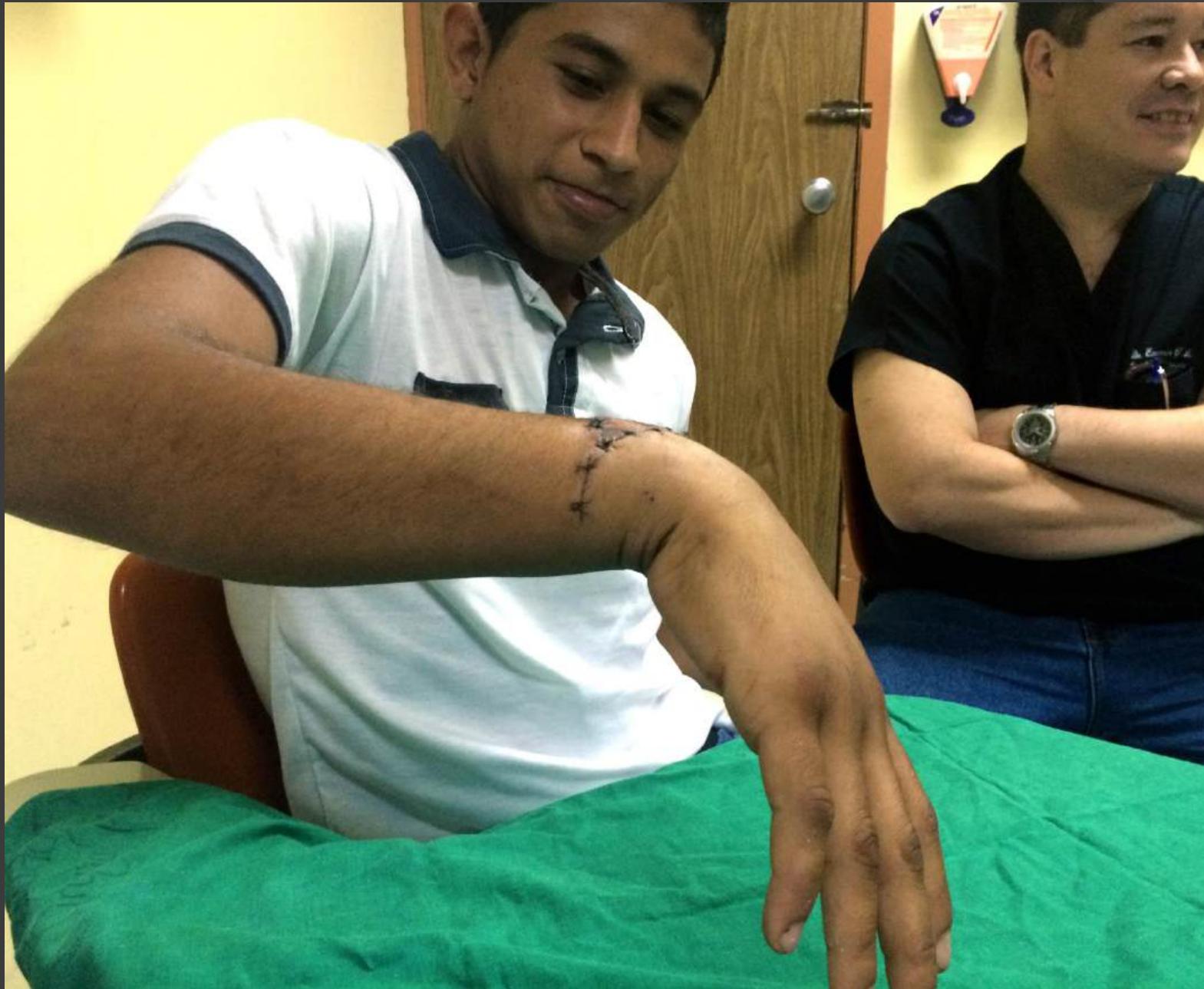
Machete to thumb, MF, RF



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





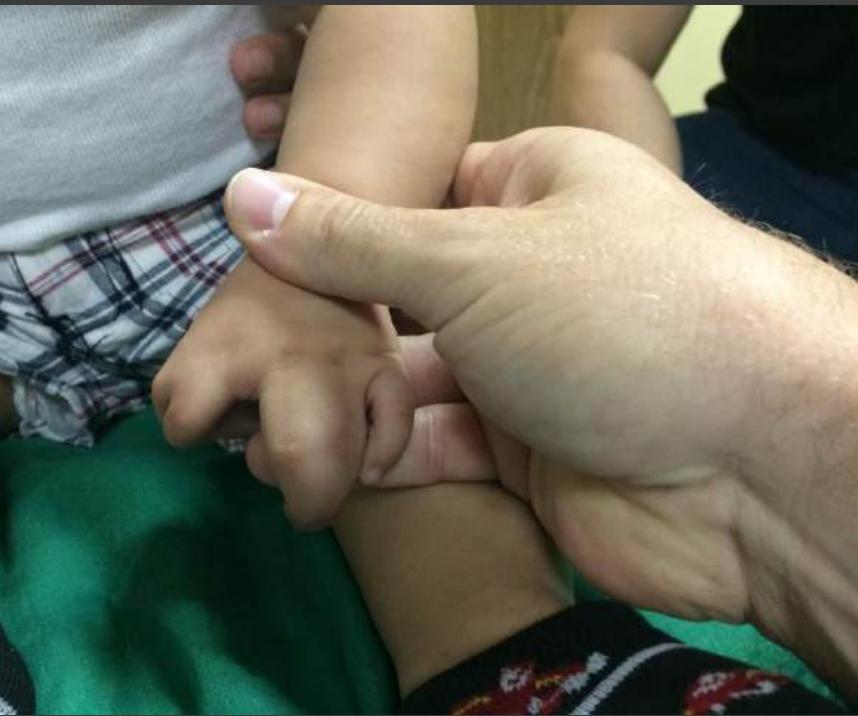




Surgery was delayed due to
pediatric anesthesia shortage

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





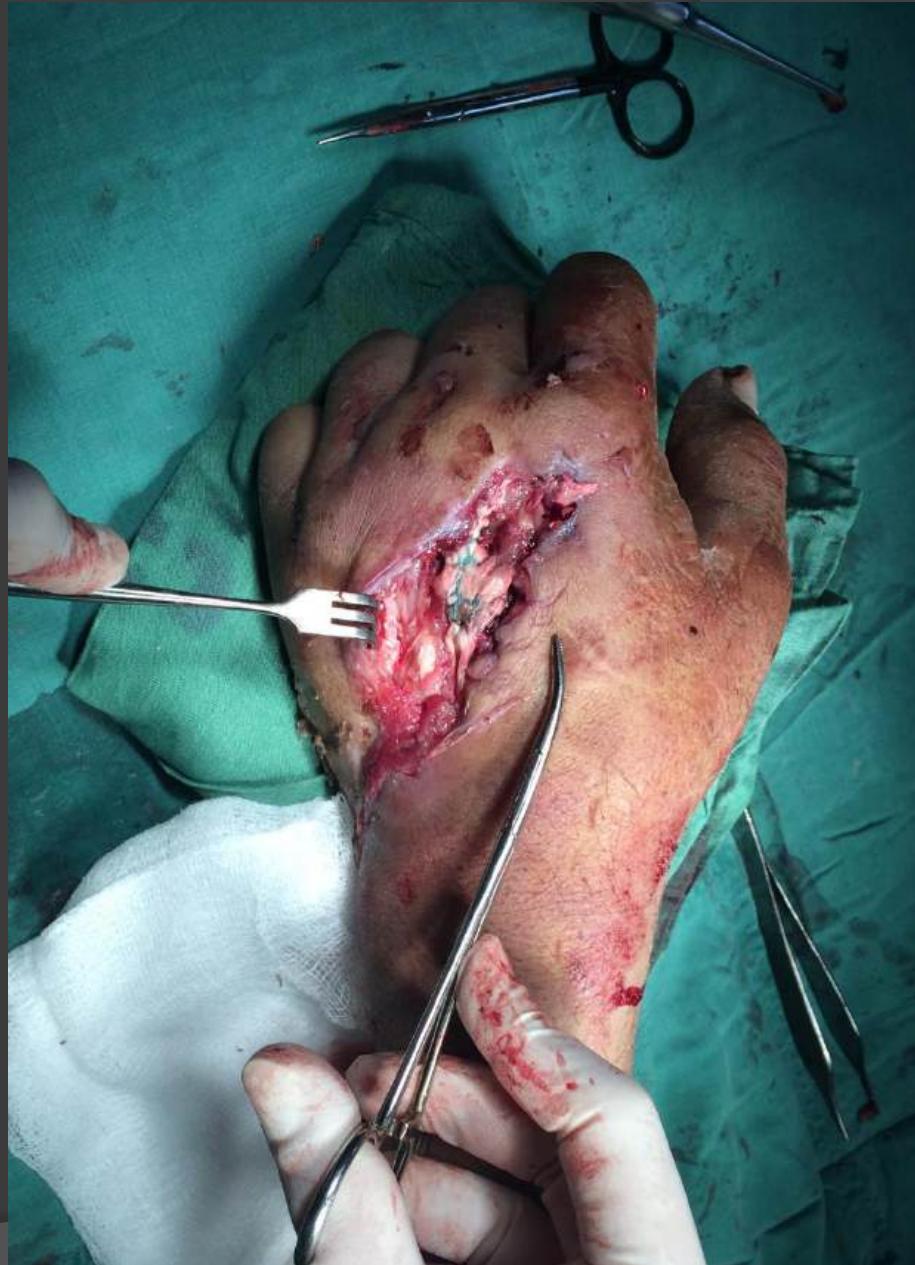
Acute care prior to my arrival

- 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

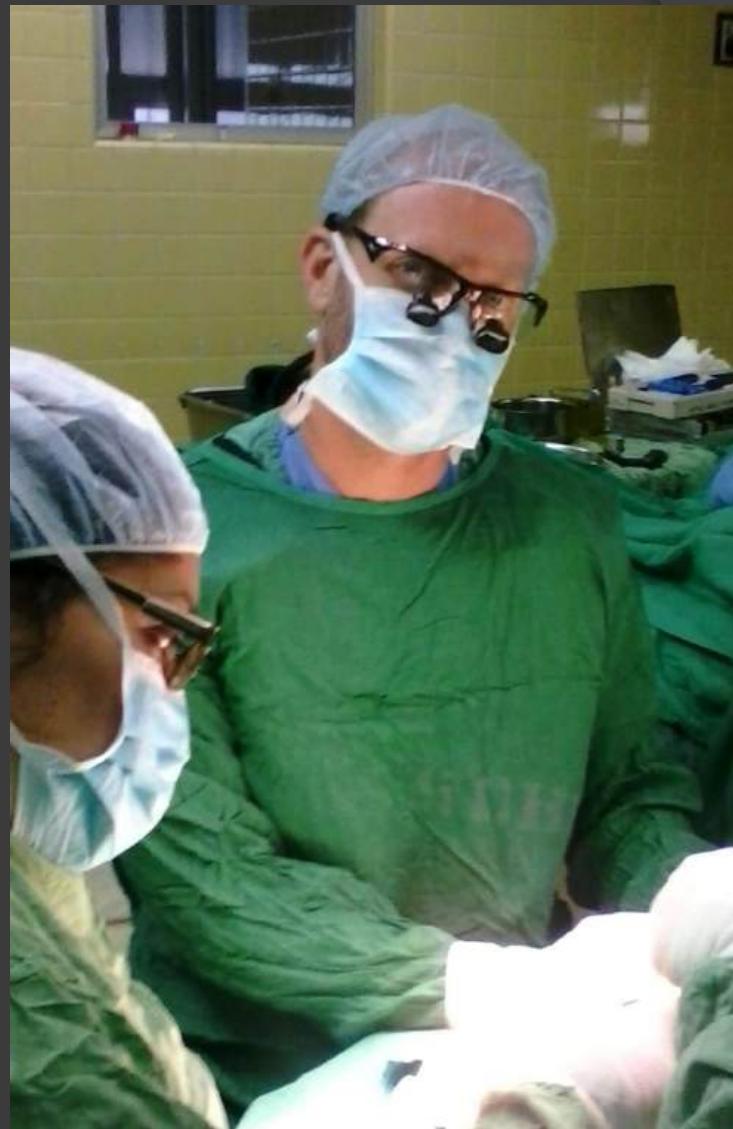


Regional block



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!

