



TRAUMA IN THE ALASKAN WILDERNESS

Tales from the Bush

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QUICK FACTS

- Population of approximately 740,000
- Size is greater than that of the next three states' sizes combined
- 60,000+ people live off the road system and only accessible by plane, boat, or snowmobile
- Most villages and towns have less than 1000 people

A	Marine Highway	G	Richardson Highway
B	Marine Highway - Inside Passage Routes	H	Seward Highway
C	Marine Highway - Southcentral & Southwest Routes	I	Sterling Highway
D	Chitina Highway	J	Steele Highway
E	Clifton Highway	K	Taylor & Top of the World Highways
F	Haines Highway	L	Alaska Railroad
G	Prudhoe Bay	M	Prince of Wales Island Road System
H	Prudhoe Bay	N	Copper River Highway
I	Prudhoe Bay	O	Kachemak Bay Road
J	Prudhoe Bay	P	Yukon-Charley Rivers National Preserve Road
K	Prudhoe Bay	Q	Yukon-Charley Rivers National Preserve Road
L	Prudhoe Bay	R	Yukon-Charley Rivers National Preserve Road
M	Prudhoe Bay	S	Yukon-Charley Rivers National Preserve Road
N	Prudhoe Bay	T	Yukon-Charley Rivers National Preserve Road
O	Prudhoe Bay	U	Yukon-Charley Rivers National Preserve Road
P	Prudhoe Bay	V	Yukon-Charley Rivers National Preserve Road
Q	Prudhoe Bay	W	Yukon-Charley Rivers National Preserve Road
R	Prudhoe Bay	X	Yukon-Charley Rivers National Preserve Road
S	Prudhoe Bay	Y	Yukon-Charley Rivers National Preserve Road
T	Prudhoe Bay	Z	Yukon-Charley Rivers National Preserve Road

Contiguous U.S. (48 States): 3,119,884 Sq. Miles

Alaska: 663,267 Sq. Miles

Texas: 695,621 Sq. Miles

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ALASKA'S TRAUMA SYSTEM CAPABILITIES

- Village clinic
- Public Health Centers
- 2 Level II and 11 Level IV trauma centers
- Private medical transportation services
- Collaboration with Department of Defense



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WHO AM I?

- NREMT-Paramedic since 1992
- United States Pararescueman for 25 years
- Retired as Chief Master Sergeant of the 212th Rescue Squadron in Alaska
- Small Business Owner
- Helicopter Ski Guide



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212TH RESCUE SQUADRON

- Pararescue is the Department of Defense's only dedicated rescue force
- Operational Responsibilities
 - Search and Rescue Alert for military assets in Alaska
 - Overseas Deployments- Combat Search and Rescue
 - Alaska Search And Rescue Support
 - Disaster Response – Alaska, Overseas and CONUS
 - Arctic/Long-Range Rescue
- Air Force's Busiest Rescue Squadron
- 2022
 - 24/7/365 Alert - 55 SAR missions/62 lives saved in AK



WHERE WE WORK

- All Environments
 - Mountain
 - Snow/Ice
 - Maritime
 - Underwater
 - Urban
 - Jungle
 - Desert
- Specialized Environments
 - Underwater
 - Confined Space
 - Collapsed Structure
 - High-Angle



GETTING TO WORK

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- Hike
- Climb
- Dive
- Drive
- Float
- Fly
- Jump



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ON SCENE

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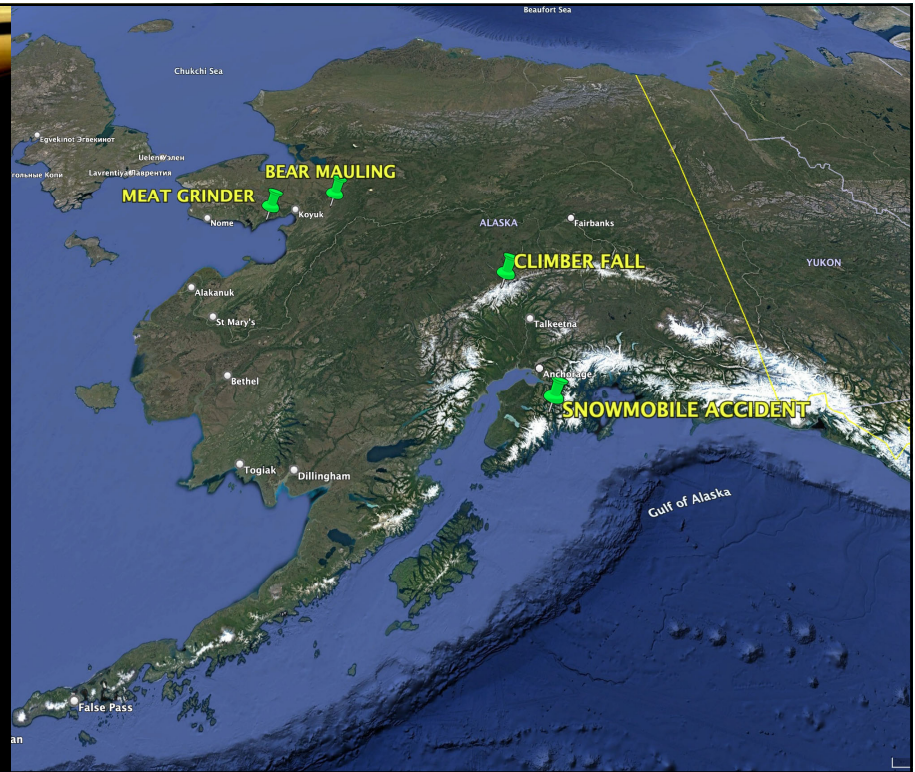
- Medical Capabilities
 - NREMT-Paramedic
 - Prolonged Field Care
 - Add'l Med/Trauma Training
 - Tactical Combat Casualty Care
- Tactical Capabilities
 - Mass-Casualty Scene Management
 - Small-Unit Tactics
- Technical Capabilities
 - Confined Space/Structural Collapse
 - Vehicle Extrication
 - High-Angle/Rope Rescue
 - Dive Rescue/Recovery
 - Swiftwater



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OVERVIEW

- Mission Discussion
 - Meat Grinder
 - Snowmobile crash
 - Climber Fall
 - Bear Mauling



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MEAT GRINDER

23 FEBRUARY/1700L-24 FEBRUARY 2023/2000L

- SITUATION
 - REQUEST FROM THE ALASKA NATIVE MEDICAL CENTER TO MEDEVAC A PEDIATRIC PATIENT FROM VILLAGE WITH SEVERE TRAUMA TO THE RIGHT ARM.
 - CIVILIAN AIR AMBULANCES WERE UNABLE TO CONDUCT THE MEDEVAC DUE TO EXTENDED PERIODS OF POOR WEATHER.
- MISSION
 - PICKUP 3 Y/O PATIENT FROM VILLAGE APPROXIMATELY 500 MILES AWAY
 - BRING BACK TO SURGICAL CARE IN ANCHORAGE AT ALASKA NATIVE MEDICAL CENTER.
- EXECUTION
 - PICK UP PATIENT WITH HH-60 HELICOPTER DUE TO RUNWAY SIZE
 - TRANSFER TO HC-130 CARGO PLANE WAITING AT GALENA AIRFIELD 150 MILES FROM VILLAGE
 - FLY BACK TO ANCHORAGE
- COMPLICATIONS/CONTINGENCIES
 - NIGHT/WEATHER- 2 ATTEMPTS
 - HC-130 WAS PREPARED TO PARACHUTE IN IF NECESSARY

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MEAT GRINDER

• MEDICINE

- **S**- 3 Y/O FEMALE WITH HAND STUCK IN MEAT GRINDER
- **O**- HAND STUCK IN MEAT GRINDER UP TO ELBOW FOR 2 DAYS
- **A**- URGENT SURGICAL CARE NEEDED
- **P**- PACKAGED PT. WITH INJURED HAND IN ICE INSIDE THE METAL GRINDER, TO COMBAT ISCHEMIA. MONITORED
 - MEDS-IV INFUSED ROCEPHIN, IM ZOFRAN FOR INFLIGHT NAUSEA

TRANSFERRED TO HC-130 IN GALENA

TRANSFERRED TO ANCHORAGE FIRE.



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MEAT GRINDER

- FOLLOW UP
 - REMOVAL OF GRINDER
 - PICKING BERRIES A FEW WEEKS AGO

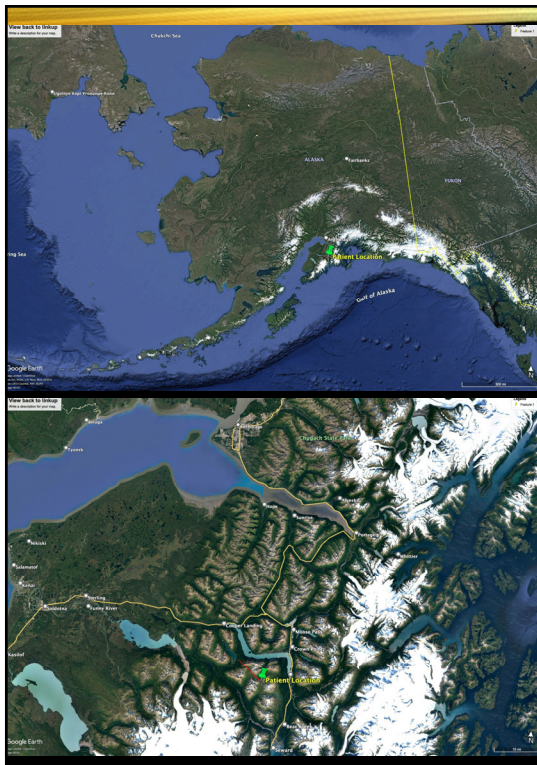


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LESSONS LEARNED

- Weather is always a factor, often the hardest thing
- Phone a friend
- Simplest may be the most effective

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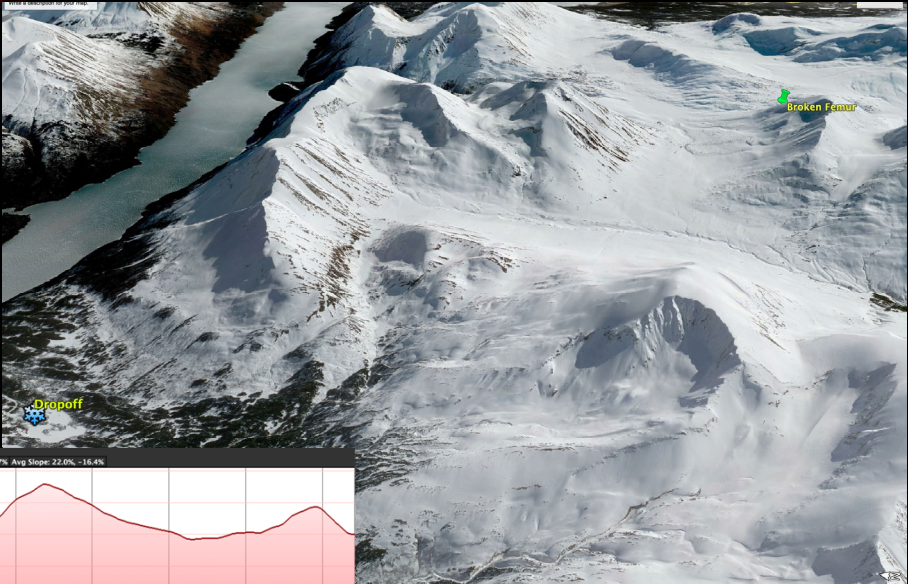
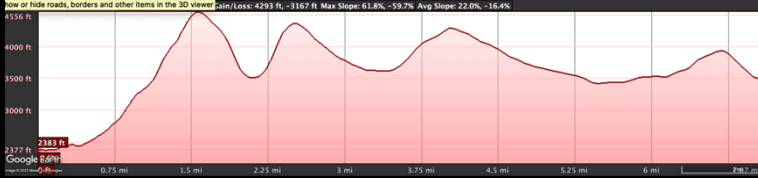


SNOWMOBILE CRASH 5 MARCH 2016/1500L

- Situation
 - WOMAN INVOLVED IN SNOWMOBILE ACCIDENT IN BACKCOUNTRY, SUSPECTED BROKEN FEMUR.
- Mission
 - FLY TO ACCIDENT SITE 60 MILES, STABILIZE, PACKAGE AND RETURN TO ANCHORAGE
- Execution
 - DUE TO WEATHER, HELICOPTER COULD ONLY GET WITHIN 7 AIR MILES OF SITE
 - DECIDED TO MOVE OVERLAND TO PATIENT
 - DETERMINE IF OVERLAND EVAC WAS POSSIBLE
 - IF NOT REMAIN WITH PATIENT OVERNIGHT

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SNOWMOBILE CRASH

Graph: Min, Avg, Max Elevation: 2377, 3664, 4556 ft
 Rise of hills, gullies, boulders and other items in the 3D terrain
 Gain/Loss: 4293 ft -3167 ft Max Slope: 61.8% -59.7% Avg Slope: 22.0% -16.4%

2377 ft
 2383 ft
 Google Earth

0.75 mi 1.5 mi 2.25 mi 3 mi 3.75 mi 4.5 mi 5.25 mi 6 mi 7 mi

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SNOWMOBILE CRASH

- Execution
 - ENLISTED HELP OF GOOD SAMARITANS ON SNOWMOBILES WHO WERE JUST AT THE SITE
 - RODE/WALKED FOR 7 MILES
 - ARRIVED AT PATIENT
 - DETERMINED PATIENT WAS UNABLE TO MOVE OVERLAND
 - BEGAN PATIENT TREATMENT
 - WEATHER DID NOT PERMIT IMMEDIATE HELICOPTER EXFIL




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SNOWMOBILE CRASH

- MEDICINE

- S- 25 Y/O FEMALE C/O BROKEN LEG
SNOWMOBILE FELL ON HER LEG APPROX. 1330L.
CONTACT MADE AT 1945L
 - O- NO LOC, VITALS STABLE,
10/10 PAIN IN LEFT THIGH
 - A- SUSPECTED BROKEN FEMUR
 - P- IV ACCESS
 - MEDS-IM KETAMINE/VERSED
- KTD TRACTION SPLINT, PAIN DROPPED TO 2/10
PACKAGED PT. IN -40 SLEEPING BAG
MONITORED PATIENT AND WEATHER
WEATHER CLEARED BUILDING SNOW CAVE
HASTY LANDING ZONE
TRANSFERRED TO ANCHORAGE @ 2215L



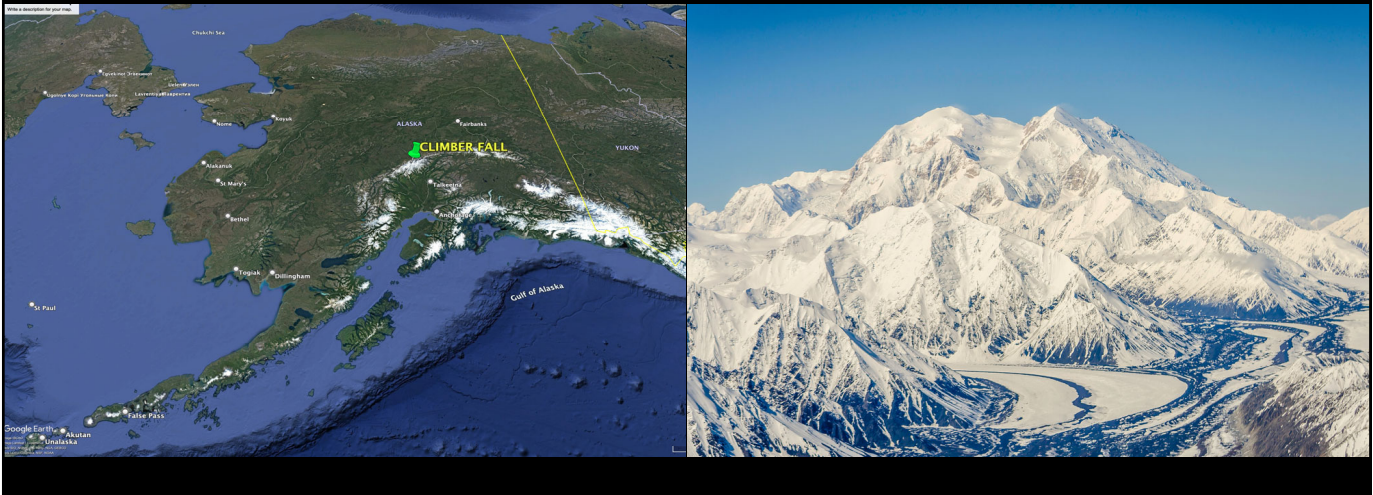
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LESSONS DELIVERED

- Good Samaritans are everywhere
- Prepare for the worst, BE READY TO CHANGE THE PLAN
- The right tool
- Always keep an eye on weather

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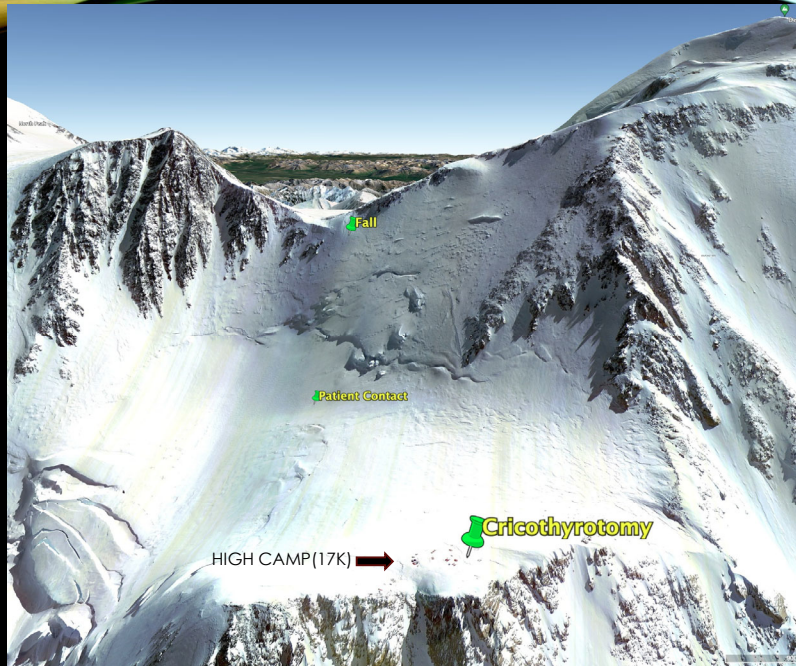
CLIMBER FALL



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CLIMBER FALL 25 MAY 2011/2315L

- Situation
 - ON PATROL WITH DENALI NATIONAL PARK SERVICE ON AT HIGH CAMP (17,200')
 - GUIDED ROPED CLIMBING PARTY OF 4 FELL 1400' ON DESCENT FROM DENALI PASS (18,000')
 - WITNESSED PERSON ON KNEES WAVING
- Mission
 - INITIATE RESCUE WITH NATIONAL PARK SERVICE AND VOLUNTEERS
 - TRIAGE, RENDER AID AND EVACUATE
- Execution
 - GATHER LITTERS/SELF-PROTECTION GEAR FOR HASTY TEAM AND MOVE TO SITE
 - INITIAL TRIAGE FOUND 2 WITH NO SIGNS OF LIFE, 1 URGENT, 1 IMMEDIATE
 - PATIENTS WERE STABILIZED, PACKAGED AND BROUGHT BACK TO TENTS FOR TREATMENT
 - IMMEDIATE EVACUATION BY HELICOPTER PUT ON HOLD UNTIL DAYLIGHT



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CLIMBER FALL

- MEDICINE-Patient #1
 - **S**- 32 Y/O MALE, FRACTURED LEG, LACERATED SCALP
WITNESSED CLIMBING PARTY FALL 1,400'
ON KNEES WAVING THROUGH SPOTTING SCOPE
MOVED TO TENT AT HIGH CAMP FOR TREATMENT
 - **O**- PATIENT TALKING, ALERT AND ORIENTED
FRACTURED LOWER LEFT LEG
MULTIPLE SCALP LACERATIONS
 - **A**- LEAST CRITICAL PATIENT, STILL REQUIRES TIMELY EVACUATION
 - **P**- SPLINTING
SUPPORTIVE CARE
PATIENT FLOWN TO 7200' CAMP NEXT MORNING
TRANSFERRED TO LIFEMED HELICOPTER



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CLIMBER FALL

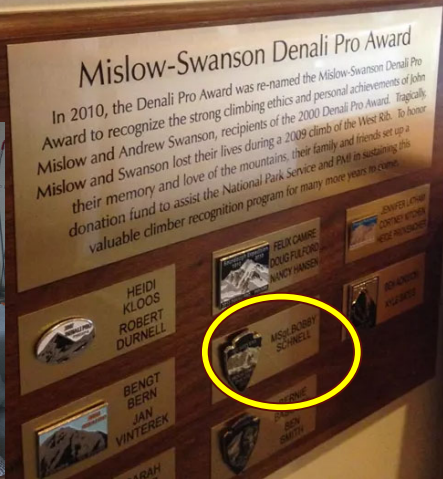
- MEDICINE-Patient #2
 - **S**- 31 Y/O MALE UNCONSCIOUS
WITNESSED CLIMBING PARTY FALL 1,400'
PATIENT MOVED TO TENT AT HIGH CAMP
 - **O**- UNCONSCIOUS, DIFFICULTY BREATHING
DECORTICATE POSTURING
CLENCHED JAW
VOMIT SEEPING THROUGH TEETH
ROPED WRAPPED AROUND MIDSECTION
 - **A**- CLOSED HEAD INJURY, IMMEDIATE EVAC
 - **P**- CRIC W/ IMPROVISED EQUIPMENT
O2-ASSISTED VENTILATIONS
 - MEDS-DEXAMETHASONE
 PATIENT FLOWN TO 7200' CAMP
TRANSFERRED TO LIFEMED HELICOPTER
FLOWN TO ANCHORAGE



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CLIMBER FALL

- FOLLOW ON
 - CALLED HIS DAD ON FATHER'S DAY
 - RETURNED TO DUTY AS U.S MARINE



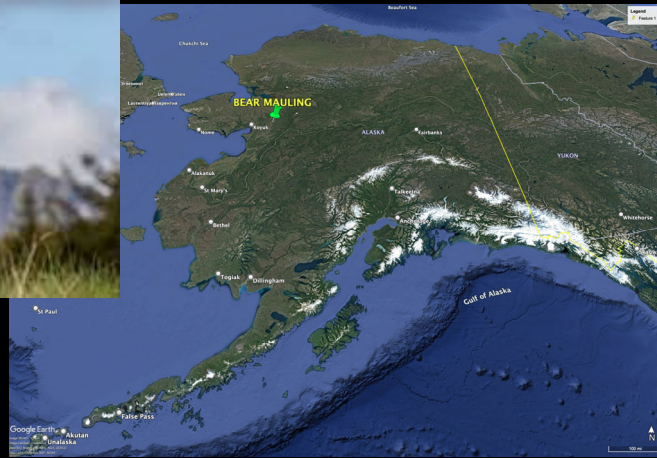
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LESSONS LEARNED

- Survival first, Team and Patients
- Weather AND Environment
- If you don't have it, you don't need it

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BEAR MAULING



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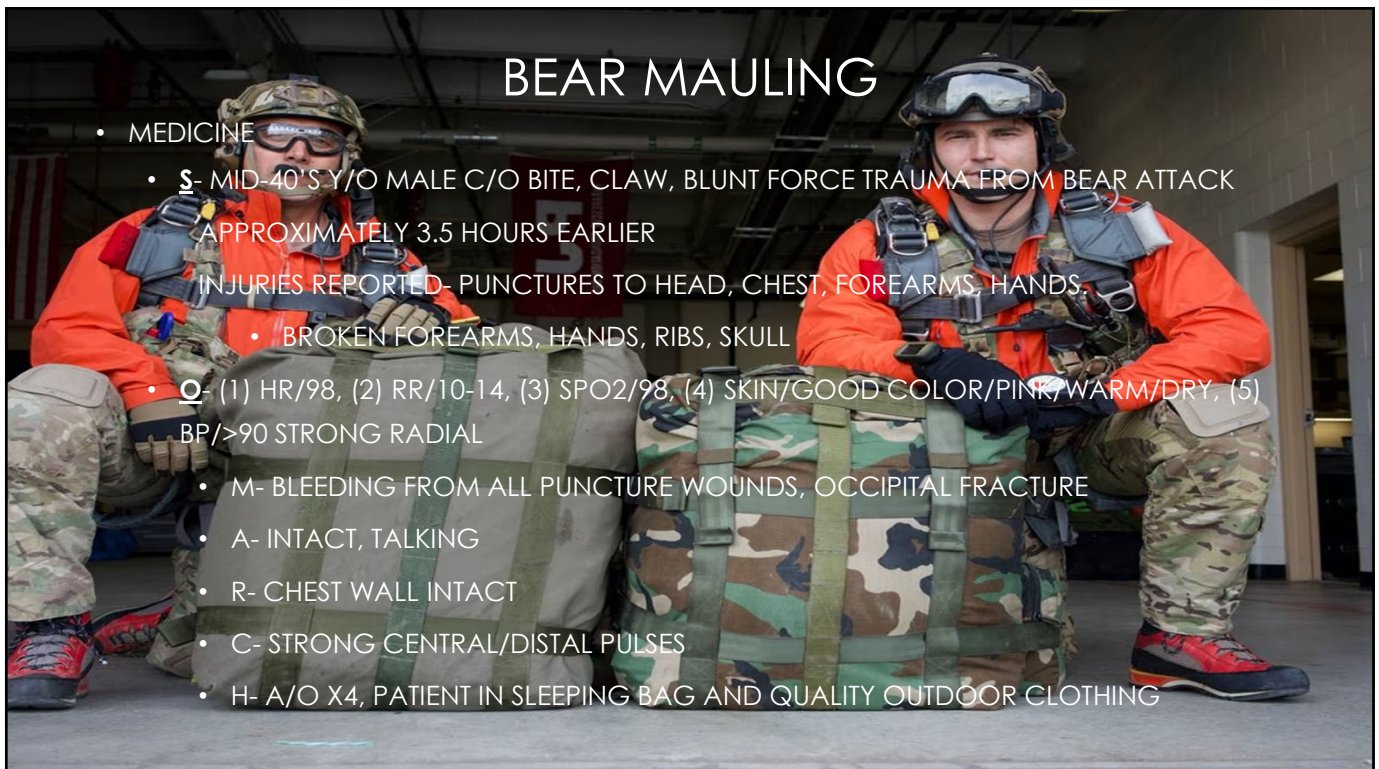
BEAR MAULING INCIDENT 10 JUNE 2019/0200L

- Situation
 - INJURED HUNTER FROM BEAR ATTACK, 350 MILES NW OF ANCHORAGE
 - REPORTEDLY IN SHOCK FROM MULTISYSTEMS TRAUMA
- Mission
 - DEPLOY 2 PJS VIA PARACHUTE FROM HC-130 CARGO PLANE TO DELIVER IMMEDIATE MEDICAL CARE
 - PICKUP WITH HH-60 HELICOPTER AND TRANSLOAD TO HC-130, RETURN TO ANCHORAGE
- Execution
 - JUMPED IN WITH SHOTGUN, MEDICAL/SURVIVAL EQUIPMENT, LANDED AND MOVED 700 METERS TO PATIENT- 0530L
 - FIRST PHASE OF TREATMENT-45 MINUTES
 - PICK UP PATIENT WITH HH-60 HELICOPTER- 0615L
 - TRANSFER TO HC-130 CARGO PLANE WAITING AT GALENA AIRFIELD 75 MILES FROM ATTACK-0700L
 - SECOND PHASE OF TREATMENT-90 MINUTES
 - FLY BACK TO ANCHORAGE
 - TRANSFER TO U.S. ARMY HELO FOR SHORT FLIGHT TO HOSPITAL- 5 MINUTES

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BEAR MAULING

MEDICINE- IN AIRCRAFT

- S- MID-40'S Y/O MALE BEAR MAULING
- O-CONSTANT REASSESSMENT OF VITALS AND INTERVENTIONS
 - HELO RIDE (1) HR/90-105, (2) RR/10-14, (3) SPO2/98, (4) SKIN/GOOD COLOR/PINK/WARM/DRY, (5) BP: 115/78
 - PLANE RIDE (1) HR/82-105, (2) RR/10-14, (3) SPO2/98, (4) SKIN/GOOD COLOR/PINK/WARM/DRY, (5) BP: 76/46 (JUST AFTER TAKE OFF) BP: 92/58-115/74 (REMAINDER OF FLIGHT)
 - HELO TO HOSPITAL (1) HR/94, (2) RR/10-14, (3) SPO2/98, (4) SKIN/GOOD COLOR/PINK/WARM/DRY, (5) BP: 110/78
- A- MUTLI-SYSTEMS TRAUMA, TREAT WITH AV-GAS
- P- PREPPED PRBCS FOR LOW BP, PATIENT STABILIZED ON NEXT SET OF VITALS.
- NO NEW INTERVENTIONS NEEDED
- TRANSLOAD TO U.S. ARMY HELO IN ANCHORAGE FLOWN TO HOSPITAL- 5 MIN

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LESSONS LEARNED

- SCENE SAFETY
- IT'S NOT OVER UNTIL YOUR HOME

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LESSONS LEARNED

- ENVIRONMENT GETS A VOTE...ALWAYS
 - WEATHER
 - ALTITUDE
 - TERRAIN
- GOOD SAMARITANS
- NO PAGE IN A BOOK, DYNAMIC SITUATION
 - NO GOOD OR BAD
- IF YOU DON'T HAVE IT, YOU DON'T NEED IT
- EMERGENT CARE CAN BE HOURS IF NOT DAYS AWAY-PLAN FOR IT MENTALLY
 - BALANCE BETWEEN TAKING TOO MUCH OR TOO LITTLE

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QUESTIONS?

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