CARE FLIGHT

CARE FLIGHT HELICOPTER OPERATIONS AND LZ SAFETY

Katrina Solaro, FP-C

1

Objectives

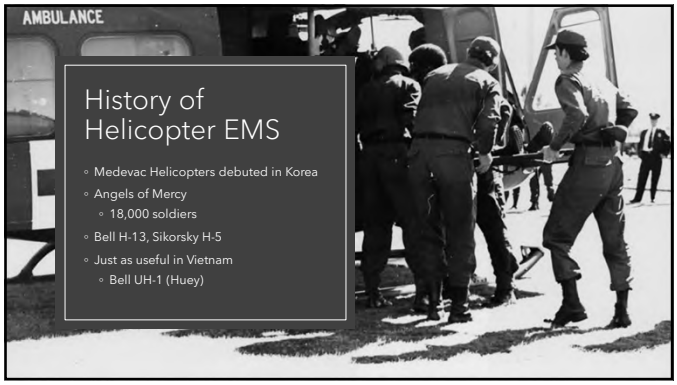
- History of HEMS and Care Flight
- FAA Part 135
- Platform Information
- Capabilities
- Requesting Care Flight
- Landing Zones
- Helicopter Emergencies

2

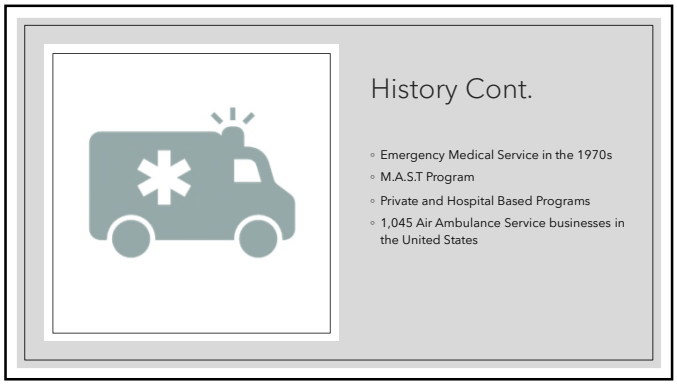
Welcome

- Katrina Solaro
- Director of Safety
- REMSA/CF 19 years
- Ground Paramedic, Community Health Paramedic
- Transitioned to Care Flight in 2016
- BS in Aeronautics with a Minor in Helicopter Operations and Safety
- Currently working on my MS in Human Factors

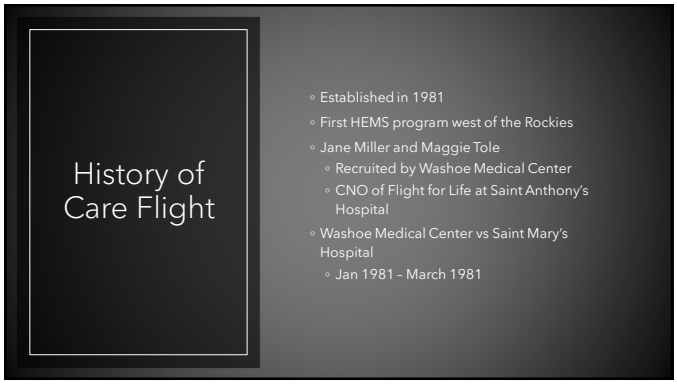
3


AMBULANCE
History of Helicopter EMS
◦ Medevac Helicopters debuted in Korea
◦ Angels of Mercy
◦ 18,000 soldiers
◦ Bell H-13, Sikorsky H-5
◦ Just as useful in Vietnam
◦ Bell UH-1 (Huey)

4


History Cont.
◦ Emergency Medical Service in the 1970s
◦ M.A.S.T Program
◦ Private and Hospital Based Programs
◦ 1,045 Air Ambulance Service businesses in the United States

5


History of Care Flight
◦ Established in 1981
◦ First HEMS program west of the Rockies
◦ Jane Miller and Maggie Tole
◦ Recruited by Washoe Medical Center
◦ CNO of Flight for Life at Saint Anthony's Hospital
◦ Washoe Medical Center vs Saint Mary's Hospital
◦ Jan 1981 – March 1981

6

History of Care Flight cont.

- Saint Mary's Hospital awarded the certificate of need
- Jane Miller named the Chief Flight RN
- Name change
- Single aircraft program
  - Staffing: One pilot, one RN
- Aerospatiale Alouette III
- First Flight was July 2, 1981

7

Care Flight Today

- All platforms available 24/7
- 1 FW
  - Pilatus PC-12
  - Atlantic Aviation
  - WA, OR, ID, CA, NV, UT, AZ
  - Pressurized cabin
- 4 RW
  - 2 AS350 B3
  - 2 AS350 B3e/H125
- 1 CCT Ambulance
  - Type I Ambulance

8

8

FAA Part 135

- The Federal Aviation Administration defines helicopter air ambulance operation as "a flight, or sequence of flights, with a patient or medical personnel on board, for the purpose of medical transportation, by a part 135 certificate holder authorized by the Administrator to conduct helicopter air ambulance operations" (14 CFR. §135.601, 2021).
- This includes patient transport flights, repositioning flights once the patient has been dropped off at the destination hospital and terminating flight due to poor weather conditions (14 CFR. §135.601, 2021).
- Operates in Class G airspace
  - Considered an uncontrolled airspace.
- In order to operate in Class G airspace, the pilot must follow visual meteorologic conditions.
- VFR conditions:
  - Day – 1,000-foot ceiling with 3 miles visibility
  - Night – 1,500-foot ceiling with 5 miles visibility
- Care Flight's certificate holder is Air Methods (RW) and Life Flight Network (FW)
  - Pilots and Mechanics

9

Rotor Wing

- VFR program
- One pilot
- One patient
- Crew Configuration
  - RN/RN or RN/medic
- Max altitude 20,000 feet
  - Normally fly under 10,000 ft
- Non pressurized cabin
- CAMTS accredited since 2002
- Sole Responder status
- Search and Assists

10

CF Rotor Wing Service Area

- 50,000 square miles throughout Northern California and Northern and Central Nevada.
- 150 miles from each base.
- 4 RW Bases
  - CF1: Fallon (Banner Churchill Hospital)
  - CF2: Gardnerville (Carson Valley Medical Center)
  - CF3: Truckee (Truckee Airport)
  - CF4: Beckwourth (Nervino Airport)

11

Do I need a helicopter?

Benefits of a Helicopter

- Critical Care providers.
- Expanded scope of practice including medications, interventions and equipment.
- Rapid transport to regional hospitals with specialty services.
- Access to patients stranded in the back country.

When to Call

- Limited EMS availability.
- Greater than 30-minute response time to Reno.
- Rapid transport to Reno for trauma, cardiac, neurological or surgical services.
- Assessment indicates need for critical care services.
- Multiple patients/severely injured patients.

12

Utilization Criteria to Consider

Trauma / uncontrolled bleeding
STEMI
Stroke / CVA
Sepsis with AMS
SBP < 90 mmHg
ACS symptoms
Cardiac arrest with convertible rhythm: VT, VF, PEA, Tachy, Brady, etc.
Entrapment
Backcountry responses
Extended EMS response times
Advanced airway needed

13

Requesting Care Flight

- 1-800-648-4888
- Contact your dispatch center, who will then call Care Flight.
- Care Flight will always dispatch the closest helicopter, even if it's a different HEMS agency.
  - It is what is right for the patient.

14

Requesting Care Flight cont.

- Please provide the following information
  - Lat/Long
    - Degrees, Minutes, Seconds
  - Type of incident, known hazards (multiple vehicles, fuel, drone activity, etc.).
  - Patient information including **weight**, age, sex, MOI/NOI.
  - Number of helicopters needed to the scene.
  - Med channel
  - Ground Contact

15

Types of Requests

Airborne Standby

- Not on scene yet but there is a high index of suspicion a helicopter is needed.
- Nonmedical resources.
- No transport capabilities.
- Any patient location information is helpful so pilots can put on enough fuel.
- Call early.
  - Care Flight has an approximate 10-minute lift time.

GO

- Confirmed patient that needs rapid transport and air ambulance resources have been requested by EMS/fire personal/law enforcement.
- Witnessed change in the patient's condition.
- Provide detailed location information and establish a secure landing zone (LZ).

Care Flight assumes all financial responsibility if requested and cancelled while enroute

16

When a Request is Made

- Request is made
- ACS tones out the closest helicopter.
- Pilot checks weather then will accept or decline the flight.
- OCC
- Crew and pilot do not receive any patient information until the flight is accepted.
- CF crew has 10 minutes to lift.
- CF crew will receive patient information and LZ coordinates.

17

Weather

- Weather determines if a flight can be completed.
  - Weather at base and on scene.
- Weather can change quickly in our region.
- Always consider local weather conditions when requesting an air ambulance.
- Consider changing the LZ or rendezvousing with the helicopter where the weather does not prevent the helicopter from landing.

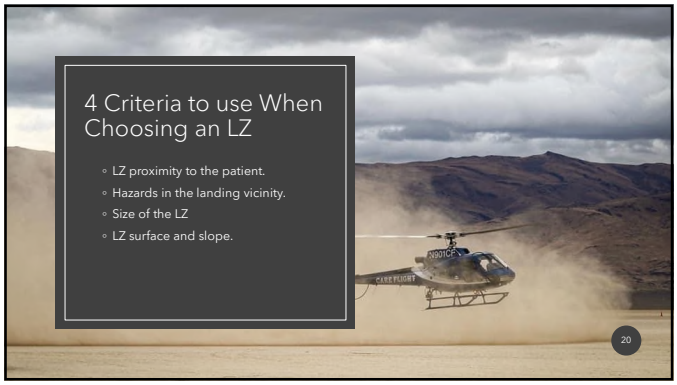
18

LANDING ZONES

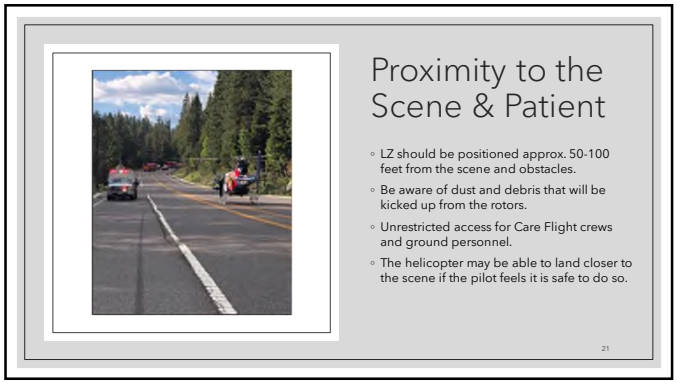
OPERATIONAL SAFETY IN AND AROUND LANDING ZONES IS THE PRIMARY GOAL!!

19

19



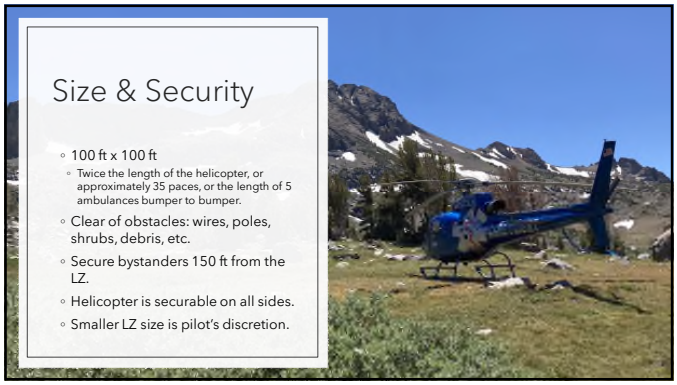
20



21


Hazards
◦ Wires
◦ Telephone poles, light poles, snow poles
◦ Signs
◦ Debris
◦ Animals
◦ Trees/bushes
◦ Other responding helicopters
◦ People and vehicle traffic
◦ Drones/UAVs
22

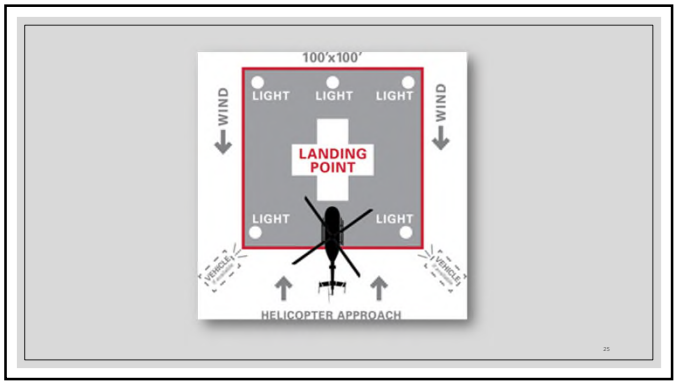
22


Size & Security
◦ 100 ft x 100 ft
◦ Twice the length of the helicopter, or approximately 35 paces, or the length of 5 ambulances bumper to bumper.
◦ Clear of obstacles: wires, poles, shrubs, debris, etc.
◦ Secure bystanders 150 ft from the LZ.
◦ Helicopter is securable on all sides.
◦ Smaller LZ size is pilot's discretion.

23


Surface & Slope
Slope
•Slope 8 degrees or comparable to mountain roads.
•Less clearance on the uphill side.
Approach
•Approach the helicopter (with CF crew) between the 10 and 2 o'clock position with the nose 12 o'clock
•Stay with in the pilot's view
Flat, firm, and level
•Reasonably flat, firm, and level
Be
•Be mindful of dirt, fresh snow, construction debris, accident debris.
•Lightly wet down dirt
24

24


100'x100'
LIGHT
LIGHT
LIGHT
WIND
WIND
LANDING POINT
LIGHT
LIGHT
HELICOPTER APPROACH

25

26

27

28

29

LZ Coordinator

- LZ coordinator is in charge of managing the LZ as well as communicating with Care Flight pilot/crew.
- May be an IC, fire personnel, EMS or law enforcement.
- Familiar with HEMS safety and LZ procedures.
- Utilize proper radio frequencies to communicate with CF: NEVCORD 1 or CALCORD.
- Responsible for all radio communication with the helicopter during all phases of the operation.
- Communicate any obstacles in the approach and departure path to Care Flight pilot/crew.
- Delegates LZ placement, tail rotor guard and security.

30

Established Air to Ground Comms

When the helicopter is in sight, hail the pilot on the appropriate channel, NEVCORD 1 or CALCORD.

If the pilot sees the scene and has not yet heard from you, they will hail you.

When hailing the pilot, be brief: CF [#], this is [co responder agency], how do you copy?

CF utilizes UHF/VHF

If comms fail – utilize dispatch to relay messages.

31

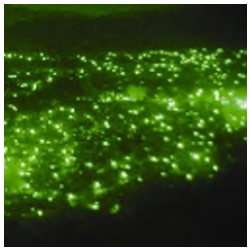
31

Radio Communication/Report

- Keep the report specific, short, sweet and simple.
- Where to land (between the ambulance and fire engine).
- Any obstacles in the flight path or around the LZ(wires on the north side of the road, snow poles, etc.).
- Wind direction.
- Slope of the surface.

32

32



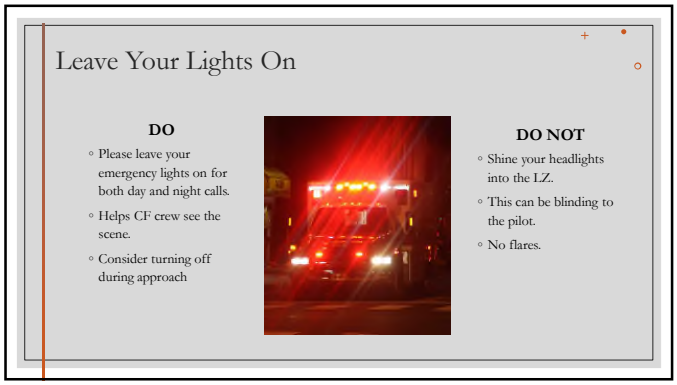
Night LZs

- CF crew members have been using NVGs since 2005
- Thoroughly inspect the LZ for any hazards prior to the helicopter arriving.
- Emergency lights help with identifying the scene from the air.
- Identify all wires and relay that information to the pilot as part as your LZ report.

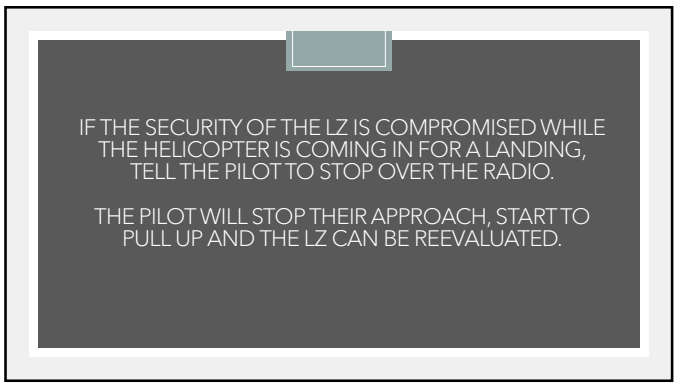
33


THE PILOT HAS THE FINAL SAY WHEN APPROVING THE CHOSEN LZ
We have a different vantage point of the LZ.
Please don't take offense to the pilot choosing a different location, we may seen something you were not able to see from the ground.
34

34


Leave Your Lights On
DO
Please leave your emergency lights on for both day and night calls.
Helps CF crew see the scene.
Consider turning off during approach
DO NOT
Shine your headlights into the LZ.
This can be blinding to the pilot.
No flares.

35


IF THE SECURITY OF THE LZ IS COMPROMISED WHILE THE HELICOPTER IS COMING IN FOR A LANDING, TELL THE PILOT TO STOP OVER THE RADIO.
THE PILOT WILL STOP THEIR APPROACH, START TO PULL UP AND THE LZ CAN BE REEVALUATED.

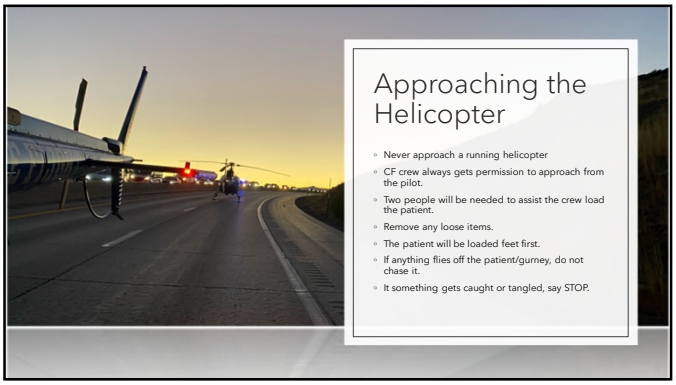
36

The Patient

- CF crew will always come to you.
- Keep the patient protected in either in the ambulance or cover on scene.
- Be prepared to give CF crew a report.
- CF may extend scene time to initiate interventions such as establish an airway.
- Secure any loose items on the patient.
- Consider warming measures, such as blankets. It can get chilly under the running rotors.

37

37



Approaching the Helicopter

- Never approach a running helicopter
- CF crew always gets permission to approach from the pilot.
- Two people will be needed to assist the crew load the patient.
- Remove any loose items.
- The patient will be loaded feet first.
- If anything flies off the patient/gurney, do not chase it.
- It something gets caught or tangled, say STOP.

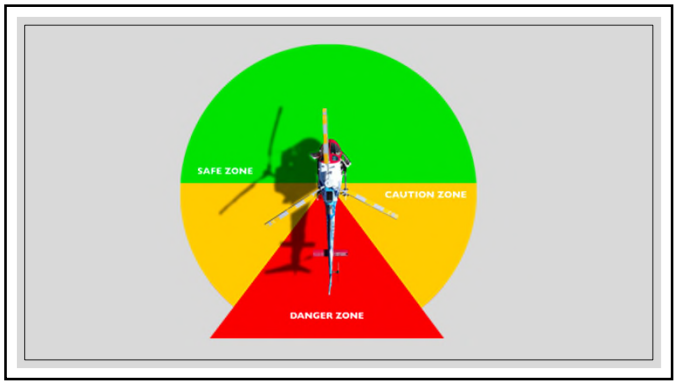
38

The NO GO Zone

- NEVER approach the helicopter from behind.
- The tail rotor is rotating at a high rate of speed and can be difficult to see.
- Good rule of thumb, never go past the aft compartment after loading the patient.
- Exit how you entered.

39

39



40

Helicopter Emergency

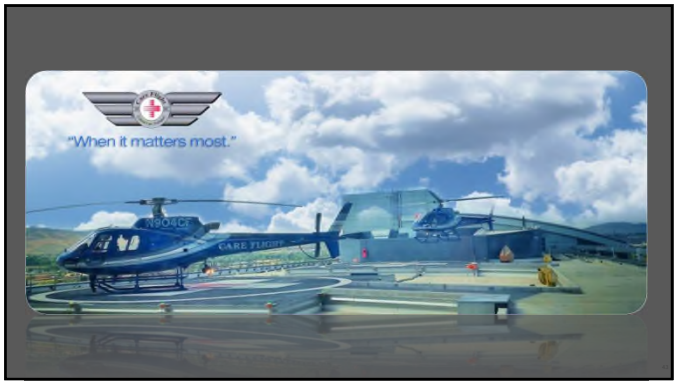
- Your safety is the number one priority.
- DO NOT approach the helicopter until everything has stopped moving.
- Keep the LZ secure and do not let bystanders flood the accident scene.
- Only enter the scene to rescue personnel.
- Keep all debris in place as much as possible - accident investigation will be taking place by the NTSB.
- If capable, put out any fires.

41

THANK YOU FOR YOUR TIME

We value our working relationship with you all very much and look forward to working with you in the future.

42



43