Welcome!
Landing Zone (LZ) Training
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MedFlight Chief Pilot

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Training Syllabus

- Importance
  - Why is This Important?
  - Landing Zone Commander
  - Night Pre-Designated Landing Zone Program

- Choosing Landing Zone
  - LZ Procedures
    - Obstructions
    - Surface
    - Landing Zone Setup

- Flight Planning
  - Route of Flight
  - Weather
  - Risk Assessment
  - 2-Patient Configuration
  - Special Concerns

- Approach/Departure Phases
  - Ground Operations

- Emergency Shut-Down

- Night Operations

- General Safety Rules
SAFETY IS NOT AN ACCIDENT

Although landing a Helicopter at an emergency scene may appear routine, it is a highly demanding task intensive maneuver. People have and will continue to be injured during this critical type of landing. Our goal, with your help, is to continue our outstanding safety record at Collier County MedFlight.
CHP Helicopter Crewmember Critically Injured. Flight Officer/Paramedic Tony Stanley was struck by a main rotor blade during a rescue.....July 9, 2012

A medic for the Arizona Department of Public Safety was killed in Sedona, Ariz., after he was struck by the rotor blade of a rescue helicopter.....October 15, 2008
LZ COMMANDER

SPECIFICALLY DEDICATED TO HELICOPTER THROUGHOUT ENTIRE OPERATION

- Landing zone briefing and additional radio communication if necessary
- Tasked with scene security before during and after landing zone operations
  - If available a tail guard should also be utilized while aircraft is on scene.
What about during day?

Found in every truck and in CC protocols

An updated landing zone list is always available at colliergov.net/MedFlight
During daylight operations, the LZ must meet the 100’x100’ criteria clear of obstructions.

During night operations, the use of the Pre-Designated Landing Zones is required
- Always reference the 4 letter identifier identified as “ID” when requesting MedFlight

Scene Calls- brief description of location i.e intersection or GPS coordinates in “Degrees decimal minutes” format is ideal.

Review your zone to ensure you know where your night pre-designated LZ’s are located and named

CCHO MEDFLIGHT - DESIGNATED LANDING ZONES

DURING DAYLIGHT HOURS, MEDFLIGHT MAY BE DISPATCHED TO ANY LOCATION MEETING ESTABLISHED LANDING ZONE CRITERIA: 100X100, FREE OF OBSTACLES AND HAZARDS

1. ALL OF I-75 IS CONSIDERED A DESIGNATED LANDING ZONE
2. ALL LANDING ZONES DESIGNATED FOR NIGHT ARE ALSO SUITABLE FOR DAY OPERATIONS

<table>
<thead>
<tr>
<th>FIRE ZONE</th>
<th>EMS ZONE</th>
<th>CCSC DIST.</th>
<th>ID</th>
<th>DAY / NIGHT</th>
<th>GEOGRAPHIC LOCATION</th>
<th>GPS COORDINATES</th>
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</thead>
<tbody>
<tr>
<td>NCFR</td>
<td>10</td>
<td>D4</td>
<td>ESEL</td>
<td>NIGHT</td>
<td>ESTATES ELEMENTARY SCHOOL (SPORTS FIELD SE OF BLDG)</td>
<td>26 20.37 / 081 32.85</td>
</tr>
<tr>
<td>NCFR</td>
<td>43</td>
<td>D1</td>
<td>FOHR</td>
<td>NIGHT</td>
<td>FIRST BAPTIST CHURCH / VANDERBILT DR (S OF BLDG)</td>
<td>26 19.43 / 081 49.08</td>
</tr>
<tr>
<td>NCFR</td>
<td>10</td>
<td>D4</td>
<td>EGEN</td>
<td>NIGHT</td>
<td>E’s COUNTRY STORE (FIELD S OF STORE)</td>
<td>26 17.47 / 081 35.67</td>
</tr>
<tr>
<td>NCFR</td>
<td>42</td>
<td>D1</td>
<td>NCHNE</td>
<td>NIGHT</td>
<td>NCH-NE HOSPITAL / BELLAIRE BAY DR, N OF HOSPITAL</td>
<td>26 16.65 / 081 41.30</td>
</tr>
<tr>
<td>NCFR</td>
<td>44</td>
<td>D1</td>
<td>NCHN</td>
<td>NIGHT</td>
<td>NORTH COLLIER HOSPITAL (NEW HOSPITAL HELIPAD)</td>
<td>26 16.44 / 081 47.28</td>
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<tr>
<td>NCFR</td>
<td>10</td>
<td>D4</td>
<td>CBMS</td>
<td>NIGHT</td>
<td>CYPRESS PALM MIDDLE SCHOOL (SPORTS FIELD SE OF BLDG)</td>
<td>26 15.98 / 081 34.57</td>
</tr>
</tbody>
</table>
OBSTRUCTIONS

- Wires
- Trees
- Light Poles
- Buildings
- Vehicles
- Tree Stumps
- Rocks
- Construction Debris
Nearly invisible from the sky

Look for wires crossing the LZ

Visually confirm the direction of wires coming off every pole in the area

Inform the MedFlight crew during Landing Zone briefing
ID The Obstacles
Crash Powerlines
Empuriabrava
SURFACE TYPES

- BEST - Concrete
- SECOND - Blacktop
- THIRD - Sod or Grass
- FOURTH - Compacted earth lightly wetted
- Last choice is sand, dirt or brush area
Avoid sandy dusty areas (unless you can wet the surface before arrival)

Should be relatively level – Minimal slope

Clear area
  - Clear of debris
  - Large rocks
  - Posts & Signs
  - Stumps
  - Vehicles
  - People
  - Animals
  - Hazards
SLOPES

Incorrect

Correct
Dry areas present a potential hazard for "brown out." A condition which severely restricts visibility during the critical landing phase of flight due to blowing dust.
Brown Out
Approach and Departure Paths

- Obstacles and patient treatment area
- Wind speed and direction
- Landing and Taking off into the wind.
- Helicopter should land downwind of patient care area.
- Sufficient distance from LZ to accident scene to avoid downwash
Set markers (5) on the four corners and 1 marker on the upwind side of the landing area

Always keep the landing area clear of people/vehicles

Do not point spot lights at the cockpit of the aircraft

100x100 is ideal

80x80 is minimum for daytime landings
Why Does It Take So Long?
• #1 Question we get is why does it take so long to launch?

What It Takes To Launch MedFlight

Tones
• Flight Medics Actions
  • Call to find out LZ from Control/Scene CDR (1-5 min.)
  • Call for patient weight
  • Pull helicopter out of hangar (2 min.)
  • Perform walk around and plug-in APU (1 min.)

• Pilot
  • Evaluates weather for departure point, LZ, and hospital (3-5 min.)
  • Complete Weight & Balance calculations (2 min.)
  • Complete Risk Assessment (30 sec.)
  • Complete route planning tasks for all 3 legs of flight – record results (2 min.)
  • Perform walk around and brief Flight Medics (1 min.)

• Both
  • Starting procedures and launch aircraft (2-3 min.)

Average Launch Time = 7-10 minutes
COLLIER COUNTY HELICOPTER OPERATIONS
MEDFLIGHT
Flight Planning

What you See

What We See

Hospital

You
It is vitally important that the aircraft requestor NOT attempt to call multiple helicopter operators when the first program declines the flight due to weather.

The industry is plagued with “Chopper Shopping” crashes caused be the lack of information from one program to the next.

LZ Commanders have the responsibility to not delay transport of a patient in an attempt to “find a helicopter”.

If a program cancels due to weather DO NOT delay patient transport. If you call for a second helicopter you MUST inform the second operator that the first choice refused the flight due to weather.
COLLIER COUNTY HELICOPTER OPERATIONS

MEDFLIGHT

Flight Planning

Route Planning

Weight & Balance
### HAA Helicopter

#### Dynamic Score

<table>
<thead>
<tr>
<th>Condition</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day Flight</td>
<td>2</td>
</tr>
<tr>
<td>NVGs In Use</td>
<td>3</td>
</tr>
<tr>
<td>Night Flight/no NVGs</td>
<td>5</td>
</tr>
<tr>
<td>Cross Country</td>
<td>3</td>
</tr>
<tr>
<td>Storm Flight</td>
<td>2</td>
</tr>
<tr>
<td>Unimproved Pre-Designated LZ</td>
<td>2</td>
</tr>
<tr>
<td>Hospital Pad / Airport</td>
<td>1</td>
</tr>
<tr>
<td>Wind 1000 to 3000 / &gt; 35 kt w/o MVFR</td>
<td>2</td>
</tr>
<tr>
<td>Wind &lt;1000 / &lt; 3 / FR</td>
<td>5</td>
</tr>
<tr>
<td>Wind Aborted by Other Operator</td>
<td>5</td>
</tr>
<tr>
<td>Wind Tornado by Other Operator</td>
<td>4</td>
</tr>
<tr>
<td>Temp/Dewpoint Within 4 Degrees C &amp; Less Than GND Wind</td>
<td>2</td>
</tr>
<tr>
<td>Deteriorating Wx Trend</td>
<td>2</td>
</tr>
<tr>
<td>Convective Activity Along Route</td>
<td>1</td>
</tr>
<tr>
<td>High Winds (&gt;20kt) or Gust Spread (&gt;15kt)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>
2-Patient Configuration

• Preferred Prior to leaving MHQ
• Takes approximately 3 minutes
• If required on-scene, helicopter will be shut down for pilot assist (Cold Load)
• May require additional personnel to assist in loading patients
Arrival & Departure
LZ Briefing

- All communication for Landing Zone information will take place on PS Wide 1 channel

- Contact will be initiated by the MedFlight crew after launch
  - Estimated time to Landing Zone
  - Request Landing Zone briefing

- Your landing zone briefing should consist of:
  - Your location in the landing zone
  - Known obstacles and hazards
  - Approximate wind speed and direction
  - Specific instruction to identify exact location for the helicopter

Sterile Cockpit Procedures: FAA regulation restricts flight crews from non essential communications during critical phases of flight.

We are not ignoring you
Engine Failure on Final
approach and departure paths

Collier County Helicopter Operations
Medflight
Arrival & Departure
Landing Zone Brief
• Obstacles
• Wind Direction and Speed
• Describe where you want the aircraft to land

Why is it important to tell the pilot wind information?
LANDING PHASE

- Maintain radio contact with the helicopter on PS Wide 1
- Maintain LZ security 2 minutes after take off
- In case of an unexpected hazard, communicate immediately

“ABORT, ABORT, ABORT”
CAUTION

- Rotor downwash can blow dirt, debris, and gravel with enough force to cause personal injury or property damage.
- Helmet with eye protection is essential
GROUND OPERATIONS

- Never approach aircraft unless requested by Flight crew
- Do not take patients to Flight Medics let them come to you.
- Never approach the tail rotor!!
- Never open or close any door of the helicopter. (you break it, you buy it!)
CAUTION

Operations in and around the aircraft are conducted under stressful and noisy conditions; approaching the aircraft without specific instruction is NOT permissible.
CAUTION

- If you are directed to approach the aircraft, only approach from the sides.
DEPARTURE

- You will hear engine RPM increase prior to aircraft lifting.
- LZ Commander should move to pilots front right side of Aircraft. Do not stand directly in front of aircraft.
- Maintain radio contact on PS Wide 1 as helicopter lifts off.
- If you observe a safety concern: Immediately announce ABORT and use these hand signals

- Remain on PS Wide 1 and maintain LZ security for 2 min. in case aircraft has to return for emergency landing
In case of a crash at or near the LZ it may become necessary for the LZ Commander to perform an emergency engine shut-down of the helicopter.

Follow these steps on the following slides:
1. Pull up on each guard
2. Press the button on ea.
3. Pull open each red guard
4. Pull out and down the yellow switch
5. Pull out and to OFF
The ELT, when activated, sends a signal to the FAA that an aircraft has experienced a hard landing. It should activate automatically, however, in some situations it may be activated manually.

1. On the dashboard flip the red switch up to activate. A red light will illuminate.
2. Another switch is located on the ELT itself but it very hard to reach as it is under the flight controls.
COLLIER COUNTY HELICOPTER OPERATIONS

MEDFLIGHT

Night Operations
NIGHT OPERATIONS

- If possible the LZ should be clearly identified by strobe lights or ground vehicles
- **DO NOT** point lights in the direction of the landing zone
- Clearly mark and/or discuss hazards with pilot / helicopter crew prior to landing
LZ SET-UP

- Set markers (5) on the four corners and 1 marker on the upwind side of the landing area
- Always keep the landing area clear of people/vehicles
- Assure that lights are not pointed at the aircraft
- 100x100 feet is minimum
GENERAL SAFETY RULES

- Never approach or allow anyone to approach the aircraft.
- No smoking or open flame within 100 feet
- No hats or unsecured articles
- Never run or hurry
- No vehicle movement near aircraft
- Keep your head/eyes up
- Notify pilot/flight crew if something is wrong
Thank You!

Questions / Comments