LANDING ZONE
&
SAFETY
PRESENTATION

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Objectives

- 1. List the methods of activating air medical resources
- 2. Describe the role of a Landing Zone Officer
- 3. Review the key elements of preparing and controlling a safe LZ
- 4. Discuss the best methods of communicating with the aircraft crew
- 5. Identify the hazards to you, your patients and the air crews
- 6. Protecting the Landing Zone
- 7. Continuity of care – Review patient preparation and report needs

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Air Ambulance Utilization

- An Air Ambulance will decrease transport time to definitive care
- An Air Ambulance will provide critical care capabilities on-scene and during transport
- An Air Ambulance provides support in multiple casualty incidents (MCI)

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Activation

- Local Dispatch “911”

- For Air Ambulance Scene Response

- Direct Notification

- For Hospital Inter-facility Request

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Communication Specialists

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Launch Information

- Location of the Scene
- Latitude and Longitude GPS Coordinates (minutes & seconds)
- Cross Streets or Roads
- Closest City/Town
- Address of Location
- Well-Known Landmark
- EMS radio frequency number and call sign (including any PL tones)
- Hazardous Material Involvement
- Local Weather Condition

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Landing Zone Officers

- Landing Zone Officer Duties: To Provide and coordinate with Incident/Scene Command.
- Responsibilities of the Landing Zone Officer
- Site selection
- Site Preparation
- Site Protection
- Site Control
- Air to ground communication

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Landing Zone Preparation

A. **100' X 100' is ideal**

1. This will accommodate all area EMS rotorcraft
2. Pilot in command has discretion over landing zone

B. Minimal Slope or as flat as possible

C. Clean surface area

1. Remove debris and wet down dusty areas if possible

D. Choose landing zones with a clear approach and departure path into the wind.

E. Assure the LZ officer has the right radio frequency and

PL tone for contacting the approaching aircraft

F. Designate a Landing Zone Officer

G. Mark LZ

1. Cones best for daytime
2. Strobes best for nighttime
3. CAUTION when using flares due to fire hazard

H. Do not allow pedestrians, animals or vehicle traffic into the LZ area

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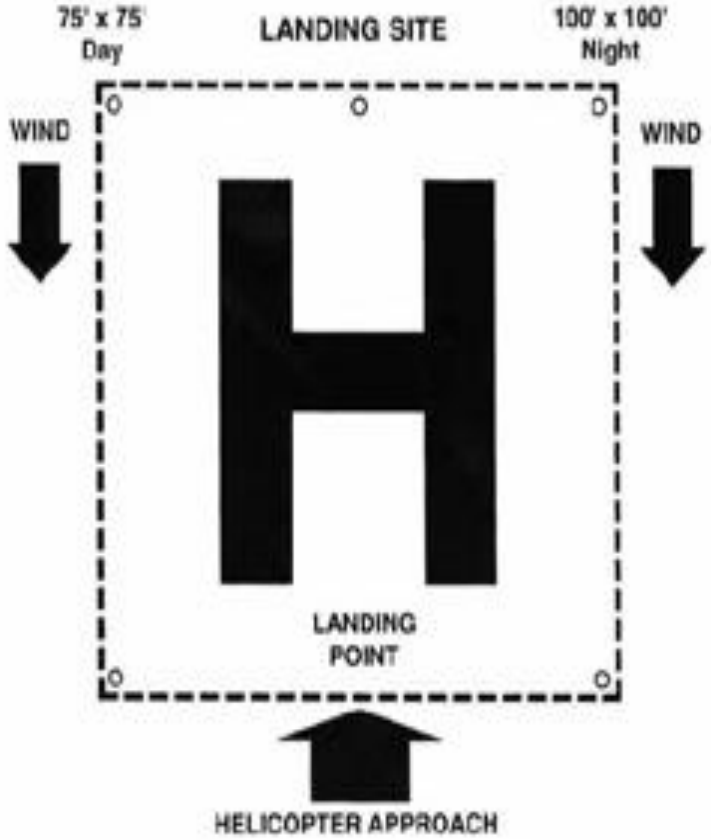
Rotorcraft Develop Maximum Lift When In Forward Flight



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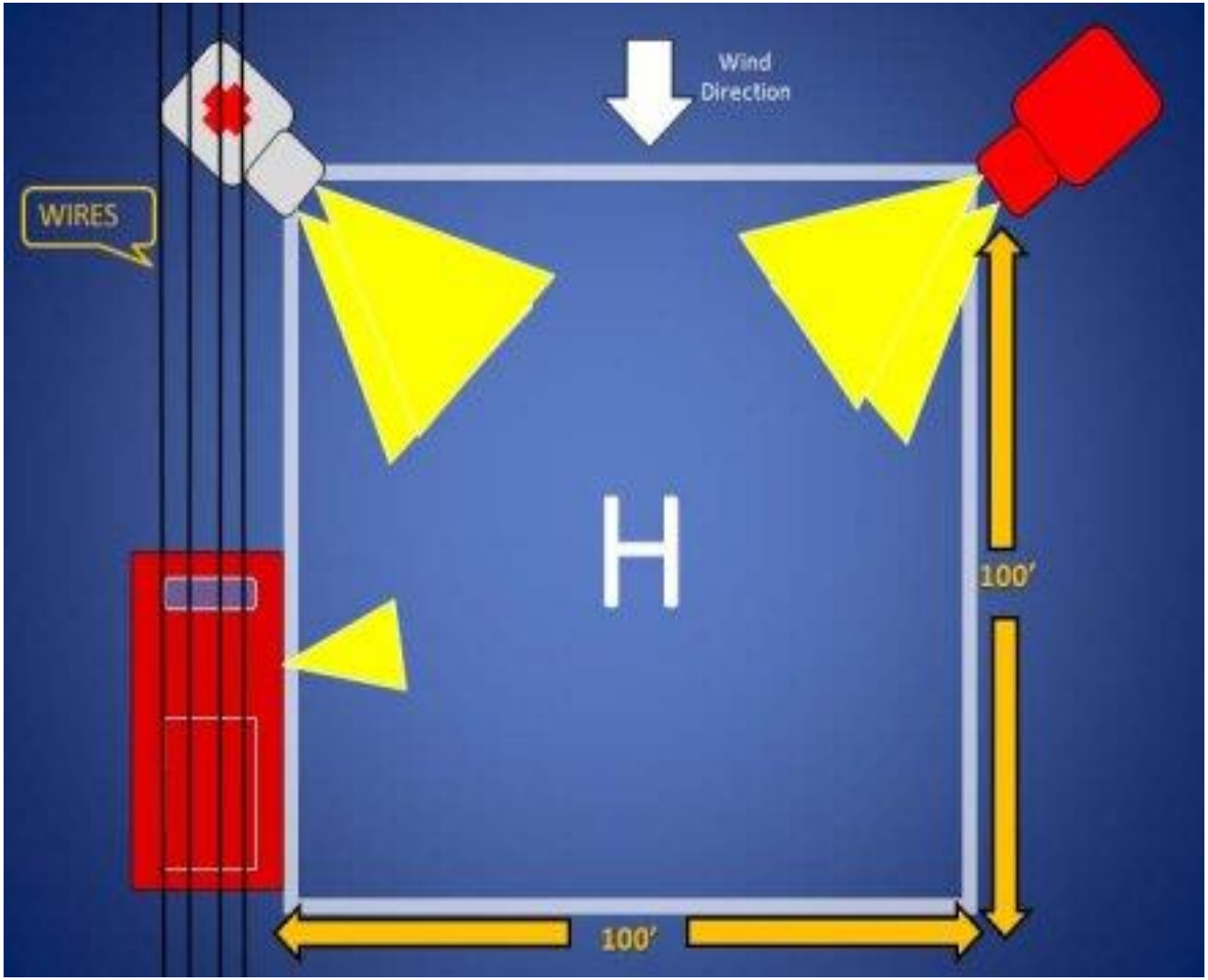
Landing Zone Prep: Marking



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Night-time Landings

- Turn off flashing white lights for helicopter approach, Pilot may request other lights off
- Use spotlights to mark obstacles and poles with overhead wires
- Don't shine lights directly at the helicopter

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Communicating With the Aircraft

- Direct radio contact is the best

- EMS helicopters have pre-programmed frequencies that are not easily changed.

- Provide dispatch with a radio frequency that the helicopter can contact the Landing Zone on.

- The ideal radio frequency has no other radio traffic other than air to ground communications

- The Crew will attempt direct air to ground radio contact when the helicopter is 5 to 10 minutes out.

- Advise the Crew when you hear the helicopter

- Advise the Crew when you see the helicopter

- Don't assume the helicopter crew can see you just because you can see them

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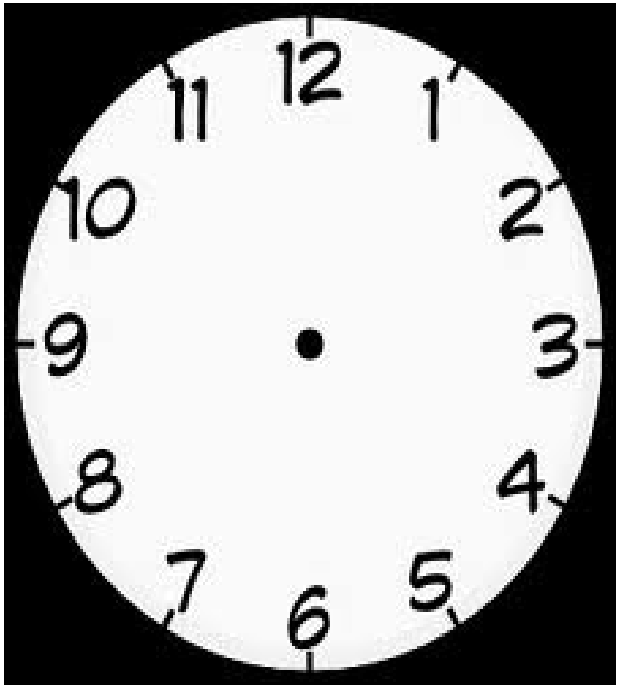
Communicating with the Aircraft, cont.

When guiding the helo in use face directional terms



The nose of the aircraft is clock always 12 o'clock

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DIRECT THE HELO BACK TO YOU

"ShandsCair, I'm at your 3 o'clock. You need to turn right."

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Communicating with the Aircraft, cont.

- Strive for direct communication – Relayed information **ALWAYS** loses something in translation!
- Hand signals aren't generally recommended – There are too many "languages"
- With concise, simple and clear language, you can avoid giving confusing or conflicting directions to the helicopter

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Identify Hazards to Those on the Ground and in the Air

- **H** azards
- **O** bstructions
- **T** errain
- **S** urface
- **A** nimals
- **W**ind/weather

Pneumonic **HOTSAW** is useful in remembering these hazards

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Communicating with the Aircraft, cont.

Debris can blow up and circle through the rotor system or blow towards ground personnel…

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OBSTRUCTIONS

What we see…

Easy for you.

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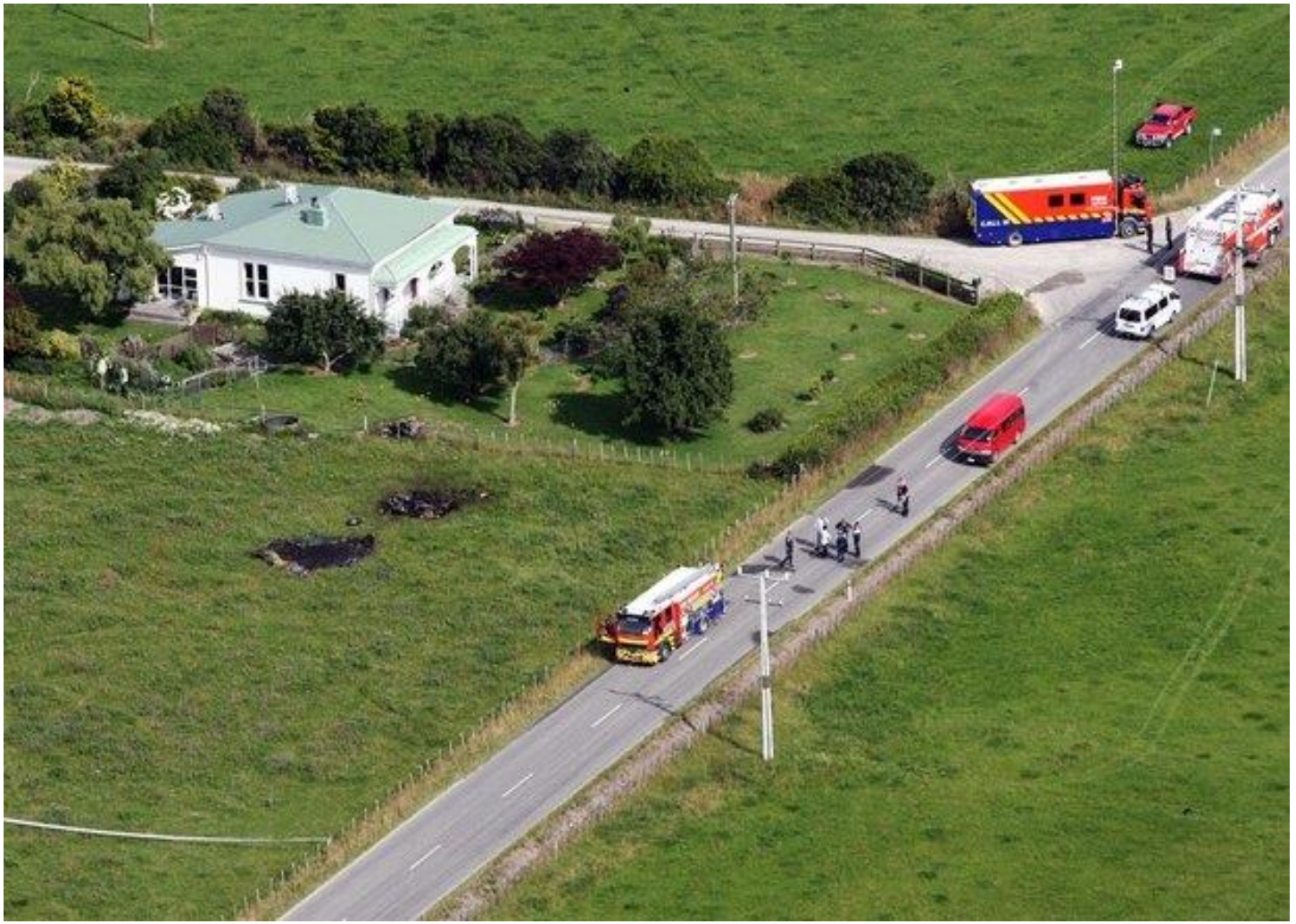
What we see…
Hard, even during the daytime.



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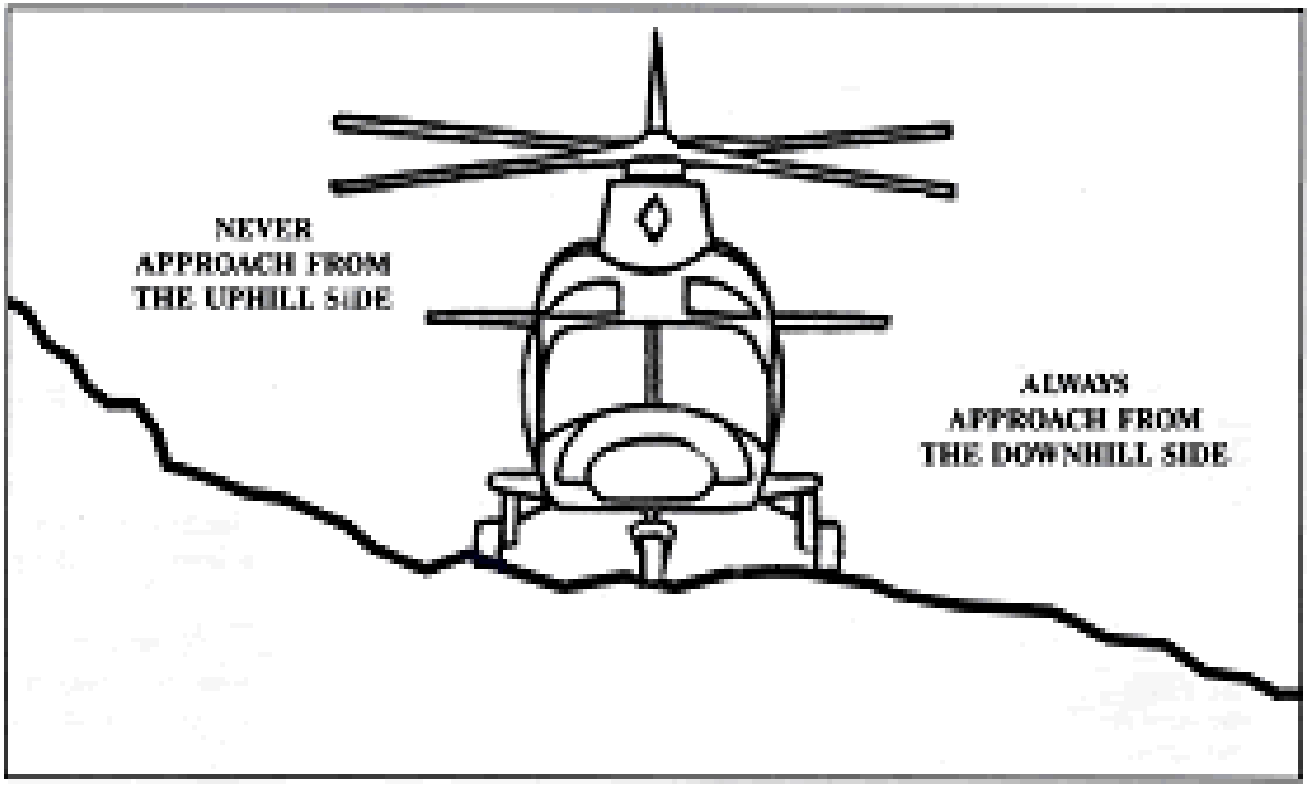
TERRAIN



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SURFACE

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ANIMALS

4 LEGS

AND 2!

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WEATHER (Fog, wind, etc.)

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Final Approach Communication

- When Helicopter is on final approach, reserve radio traffic for safety-related communication only

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If immediate hazard is seen, say, "**Abort landing!**"

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Final Approach

- Once the aircraft is on final approach the LZ Officer should vacate the immediate area.
- Move to a safe vantage point to watch for hazards.
- Limited communication on short and final approach.
- Pilot has discretion on safety of landing zone.

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Night Vision Goggles

- NVG's ENHANCE safety at night by multiplying available light up to 10,000 times.
- ***DO NOT*** shine lights toward the aircraft!
- If possible, limit the number of vehicles with rotating strobes on while aircraft is landing or taking off.
- Overhead lights can "washout" lights used to mark a landing zone, such as small strobe lights, chem lights, etc.

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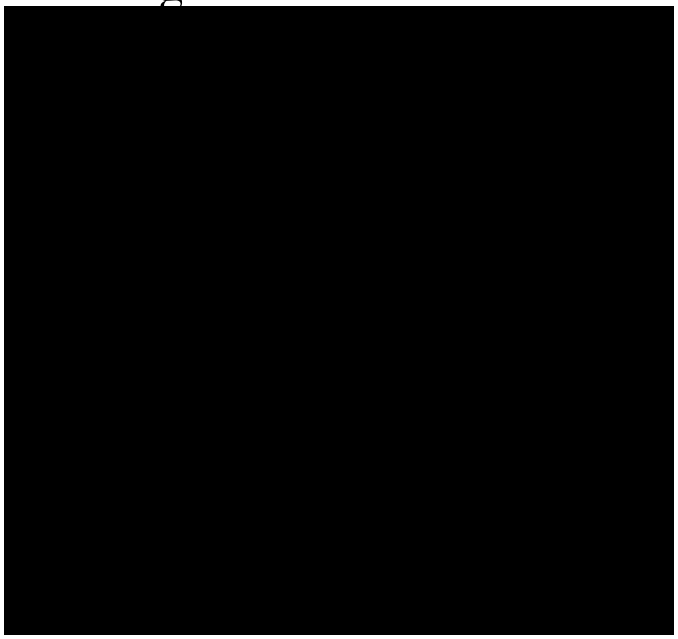
Night Vision Goggles, cont.

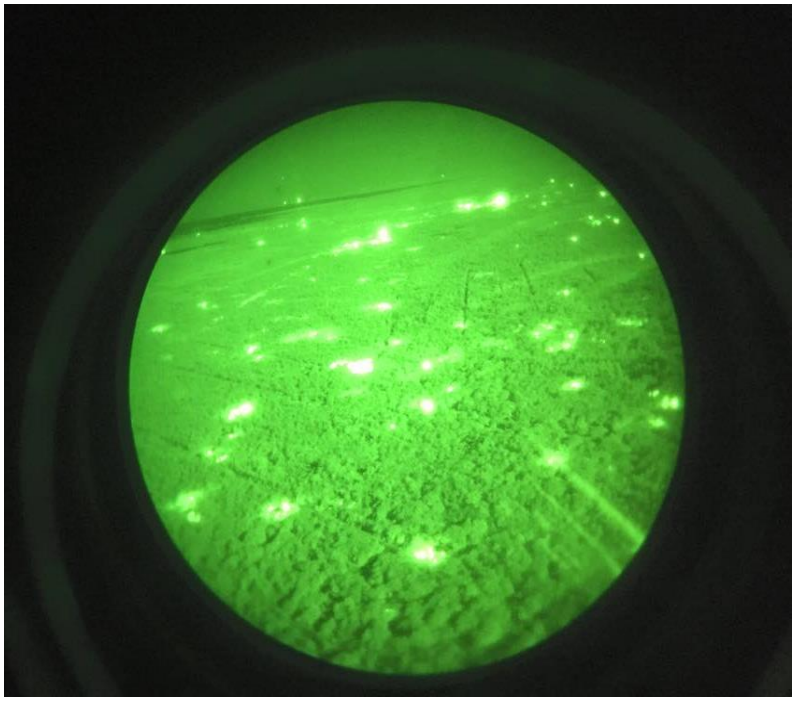
What they don't do:

- Allow us to fly in fog, freezing rain or heavy rain

-Change our current weather minimums



What they will do…



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Landing Zone Protection After the Ship has Landed

- Keep your eyes everywhere for signs of vehicles or pedestrians approaching the LZ whenever the rotor is spinning.
- Prevent ***ANYONE*** from approaching the aircraft until receiving a definite signal from the flight crew.
- Stay outside rotor perimeter and ***NEVER*** approach the aircraft without crew direction.
- Even after shutdown, control/guide vehicle operation near the aircraft.
- Assign a tail rotor guard if possible.

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Tail Rotor – The Threat Even Experienced People Forget

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Tail Rotor – The Threat Even Experienced People Forget

All styles can be damaged by loose objects, trees and high brush and present a hazard to ground personnel!

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NEVER APPROACH THE HELO WHILE PILOT IS STARTING UP OR SHUTTING DOWN

The helo rotors can not be controlled during these times.
Always make eye contact with pilot or stay beside aircrew when under rotors.

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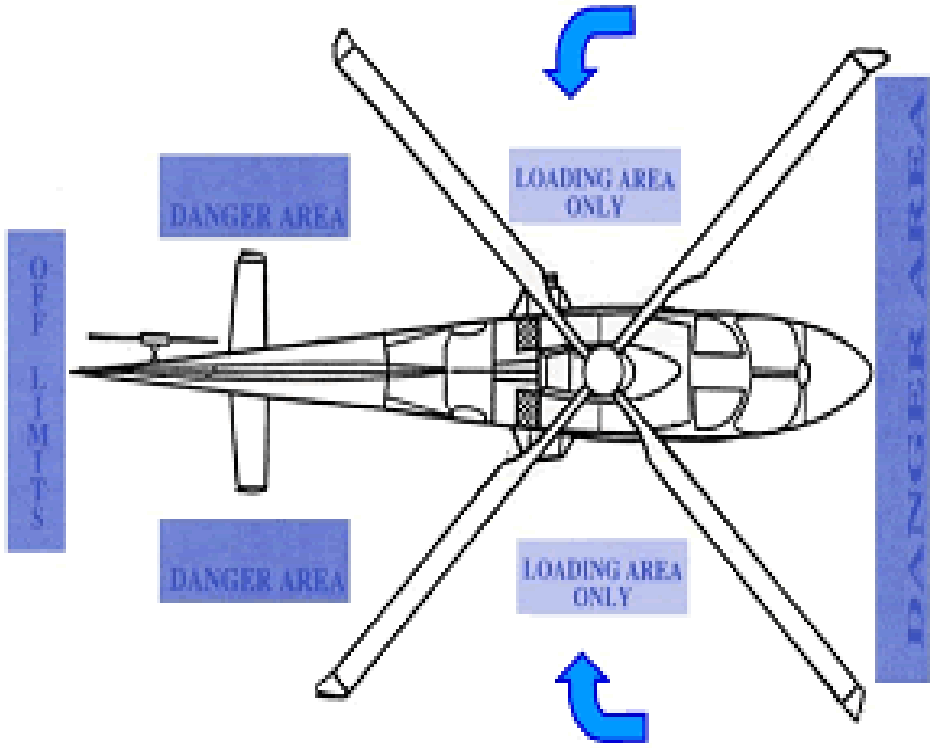
Approaching the helicopter

Always approach the helo from the 3 o'clock or 9 o'clock position.
NEVER the rear (6 o'clock) or directly from the front (12 o'clock.)



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Continuity of Care

- The air crew should always seek out the primary caregiver of the patient that's to be flown
- Give a brief, concise report just as you would over the radio to an E.R.
- If possible, provide a copy of the patient's identification and written hand-off including treatment prior to our arrival and vital signs to the air crew

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Loading the Patient

- You may be asked to assist the flight crew with loading the patient
- Follow flight crew directions, some helicopters are side-loading, some are rear-loading
- Some programs may load while the helicopter is running (Hot Load) resulting in a noisy environment making communications difficult.
- Remove all caps
- Be aware of bed sheets and loose articles
- Always stay with aircrew

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Patient loading cont..

EC 135

Rear Loading:

Do NOT go pass the horizontal stabilizers & beware of engine exhaust

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Patient loading cont..

Side Loading, Approach from 9 o'clock position.

Do **NOT** go past the rear crossbar.

View from side entry

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Landing Zone Protection During Take Off

After the aircraft is closed up and starting:

- Keep an eye open for signs of doors not fully closed, access covers open or straps hanging out.

- Keep a radio in hand to advise pilot of any new hazards that appear.

- Keep radio channel open until aircraft is out of sight.

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Hard Landing Protocol

- In case of a helicopter accident-Keep Safe!
  - Protect yourself and others from flying debris
  - Do NOT approach the aircraft until all moving parts have come to a stop
  - Advise your dispatch to contact the flight program
  - Call for additional assistance as needed
- Additional Fire Unit(s)
- Additional Medical Aid Unit(s)
- Additional Air Ambulance Resources

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It's A Team Effort

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We All Want To Go Home In The Morning

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Thank you for allowing us to be with you…. QUESTIONS?

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