Mechanized Platforms

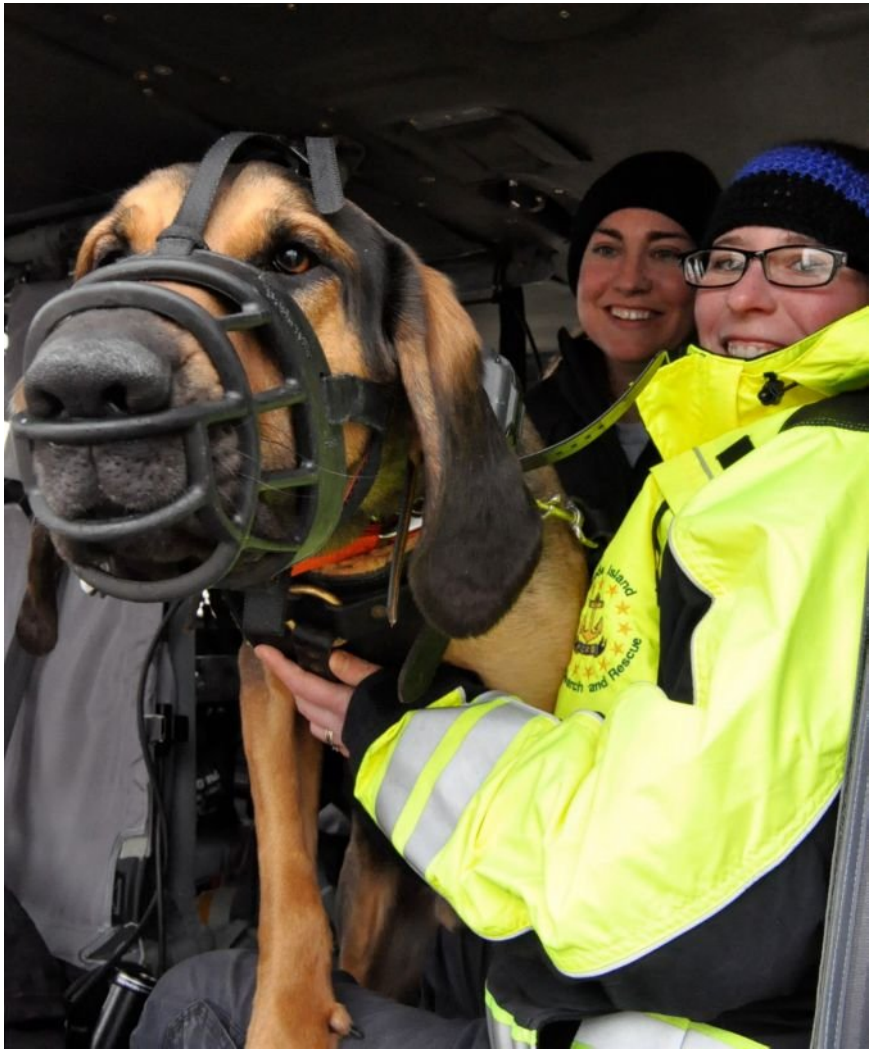
Not Traveling on Foot

- Helicopters
  - Helicopter Operations
  - Helicopter safety, PPE
  - Landing zone
  - Flight safety
  - Air observer
- Mountain Bikes
- ATVs
- Snowmobiles

Helicopter Operations

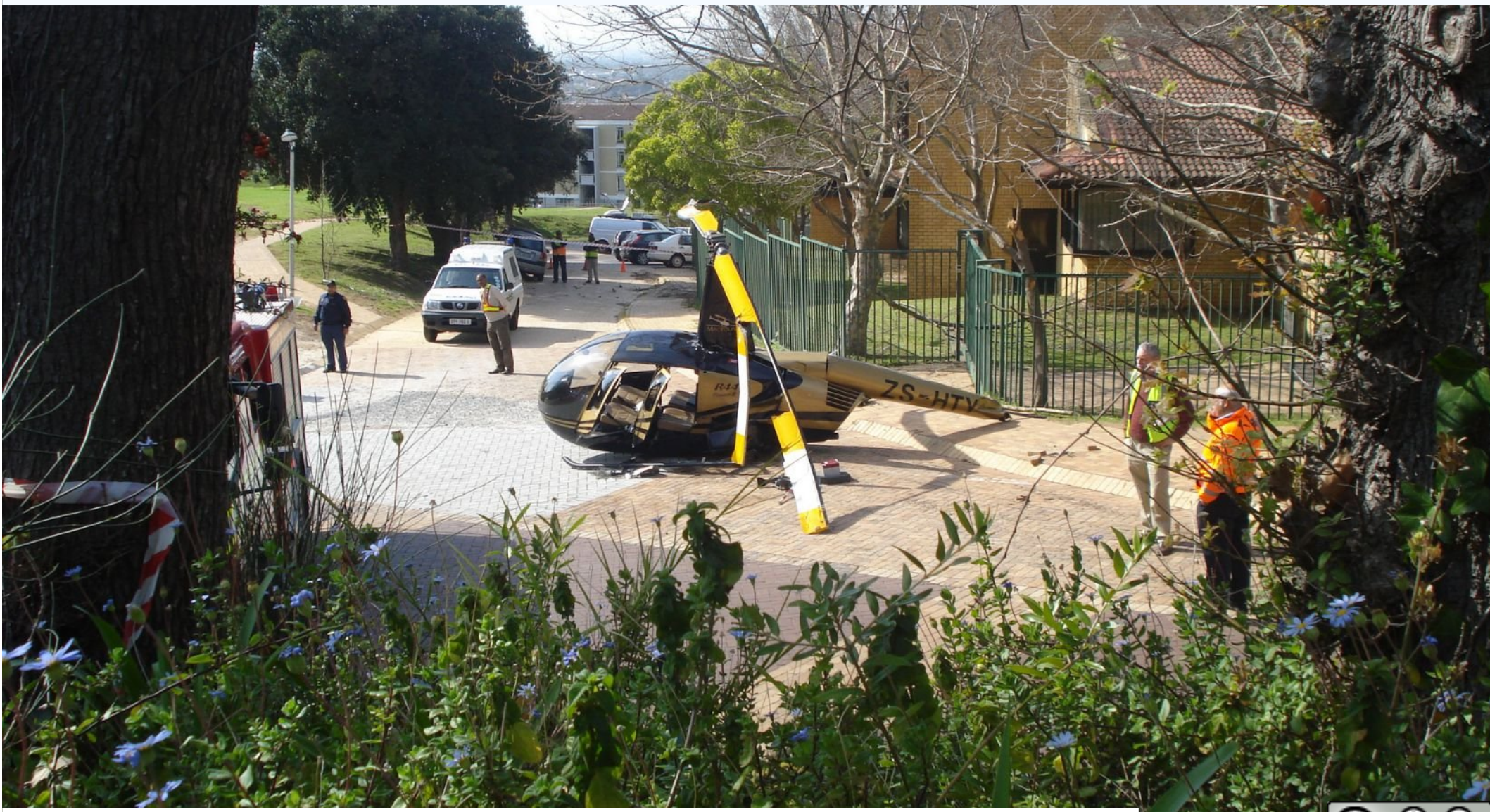
Locate, Access, Stabilize, Transport

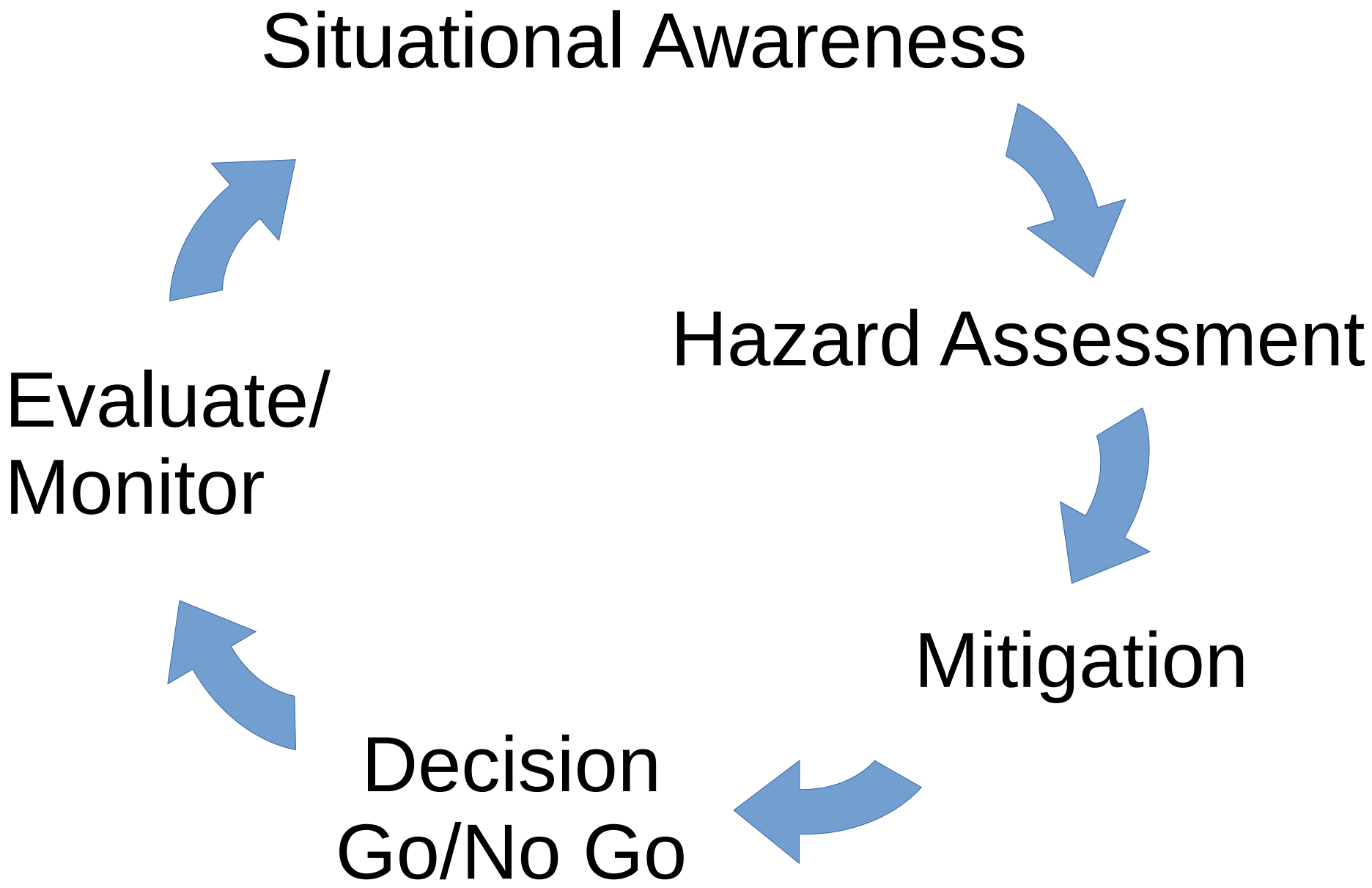
- Search
- Rescuer Transport
- Medivac
- Helicopter Rescue
  - Hoist Rescue
  - Short haul



RICSAR K9 Jep, UH-60 Black Hawk Familiarization
RI National Guard, public domain image by Staff Sgt. Peter Ramaglia

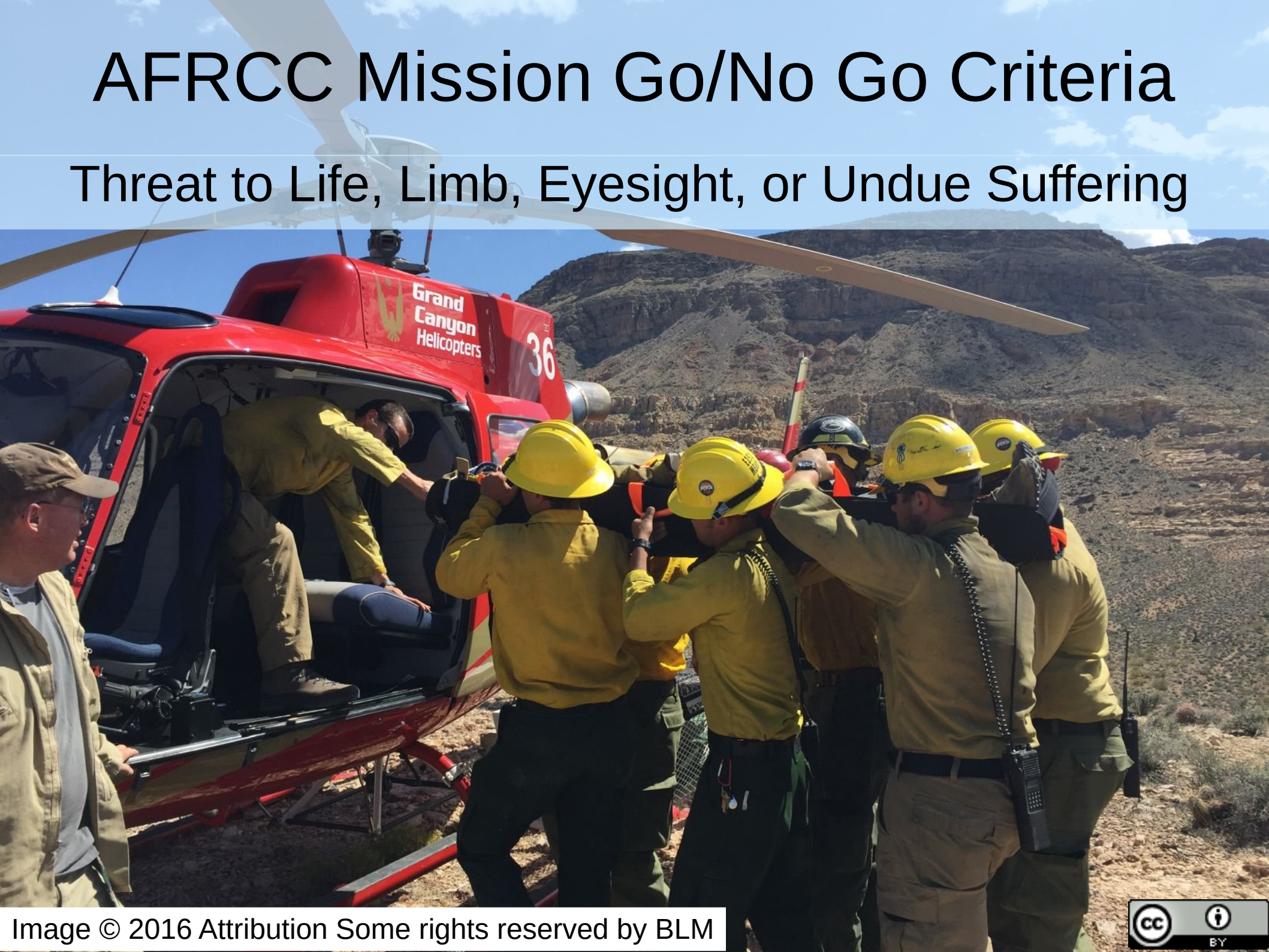
Helicopter rescue involves unique hazards, which can be fatal




Situational Awareness
Hazard Assessment
Mitigation
Decision
Go/No Go
Evaluate/
Monitor

AFRCC Mission Go/No Go Criteria

Threat to Life, Limb, Eyesight, or Undue Suffering



Characteristics of Safe Operations

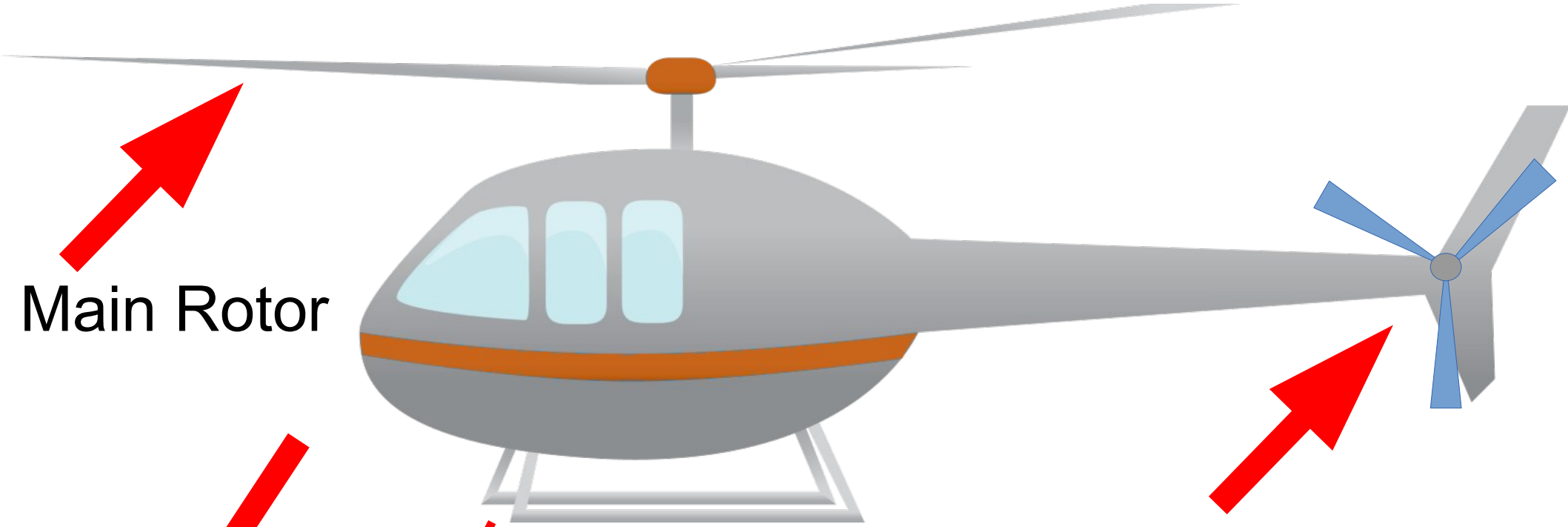
- Well briefed
- Clear desired result
- Clear team expectations
- Clear responsibilities
- Climate that values input
- Identification of available resources
- Positive attitude, high morale
- High degree of accountability at all levels
- Atmosphere of self critique

Typical Daytime Limitations

- One Mile forward visibility
- 500 feet clearance below a cloud ceiling
- 1000 feet above clouds
- 2000 feet horizontal clearance from clouds

- The final authority regarding any aircraft is always the Pilot In Charge.

Helicopter Hazards



Main Rotor

Tail Rotor

Static Charge

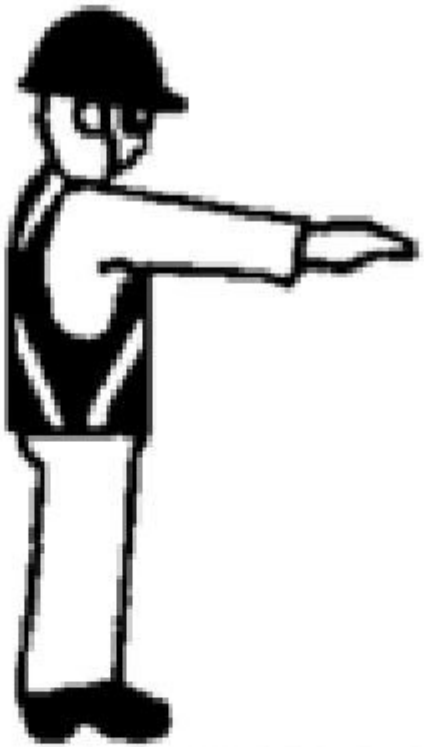
Rotor Wash


Main Rotor
Tail Rotor
N72EH
BOSTON MedFlight
Your Life. Our Mission.


DG

Landing Zone Safety

- Secure loose clothing and equipment.
- Keep landing areas clear of loose debris.
- Provide visual wind indicators for landing and takeoff.
- Wear eye and hearing protection. Wear a helmet secured by a chin strap.



LAND HERE, MY BACK IS INTO THE WIND

extend arms toward landing area with wind at your back.

Landing zone/Helispot

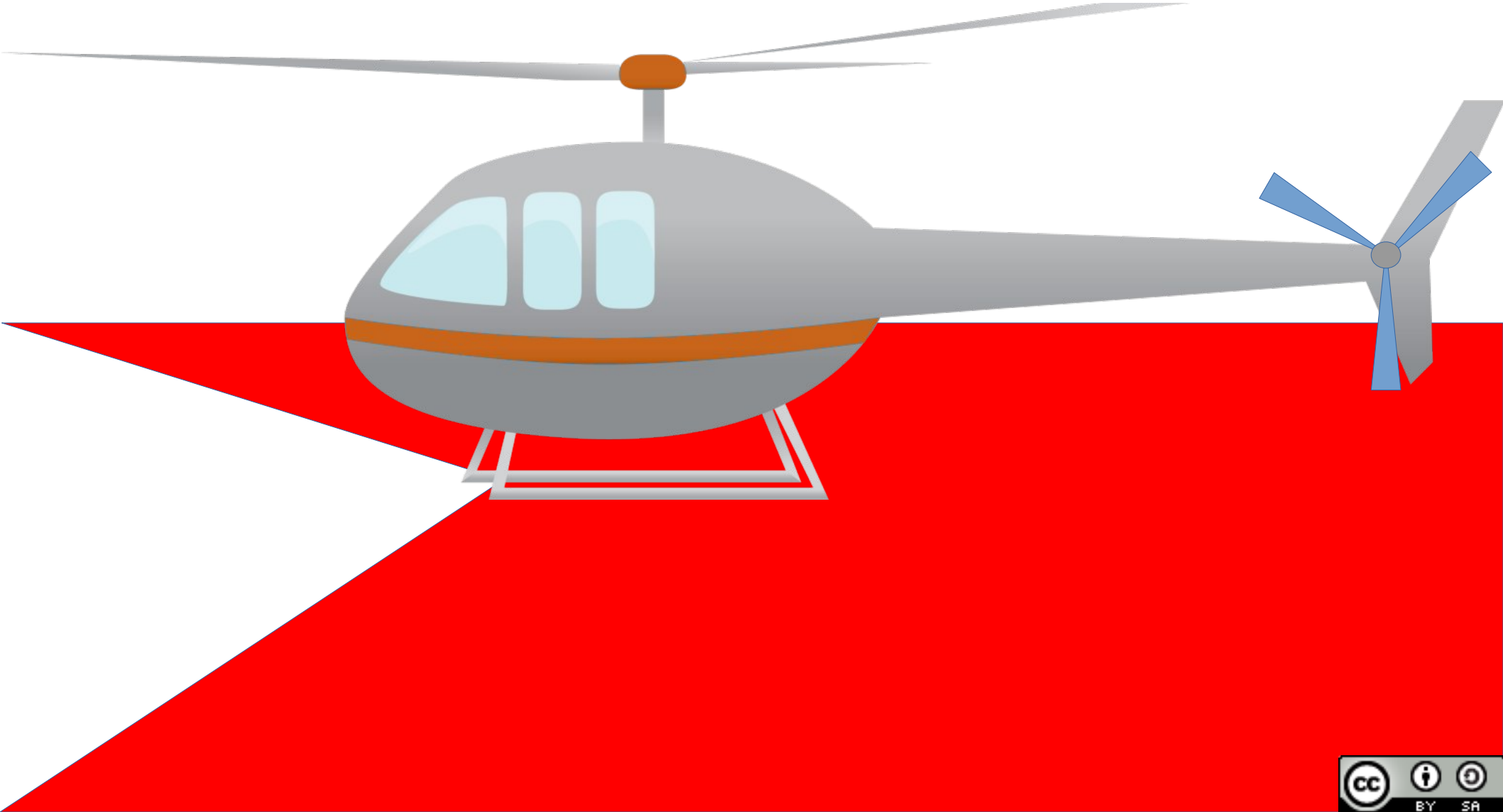
- Preferably: pre-planned landing zone, with ground support from local fire department.
- Check and clear the area of FOD – Foreign Object Debris.
- At night, illuminate helispot with lights shining onto the ground (not strobes).
- No Flares, No Smoking, No ignition sources.
- Site clear of overhead wires, towers, obstructions. Site clear of all obstacles taller than 12 inches. Site with less than 7 degree grade.

Check and clear the area of FOD – Foreign Object Debris

Landing Zone Safety - Approach

- Never approach the helicopter until the pilot or crew directs you to do so.
- Approach and depart from front or with 45° of the front of the helicopter, unless directed otherwise.
- Approach crouching, in full view of the pilot.
- Do not walk toward the tail rotor.
- Approach from downhill side, depart downhill.
- Carry nothing above shoulder level.

Only Approach on the Crew's Signal
Usually from the front



Only Approach on the Crew's Signal

NE Regional Medical Helicopters (e.g. Boston MedFlight)

Only approach with a crew member

Landing

- Preferred: Full touchdown, flat landing zone clear of obstructions
- Slope landing: Up to 5 degree slope. Risk of striking tail on slope. Risk of dynamic rollover.
- Power on landing: Both skids on ground, running full power. Snow landings, landings next to drop off.
- One Skid landing, Toe-in landing.
- Hover Landing: Skids don't touch the ground, aircraft can move.

Slopes

- Approach and depart from front or with 45° of the front of the helicopter.
- Approach from the down slope side of the helicopter.
- Depart the helicopter going down hill.

Flight safety

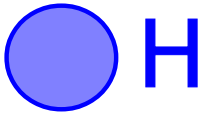
- Seatbelts fastened at all times.
- Secure all loads (packs, ropes, loose equipment) under the direction of the crew.
- Secure canines under the direction of the crew (rappelling harness, muzzle).

Required Pre-Flight Helicopter Safety Briefing

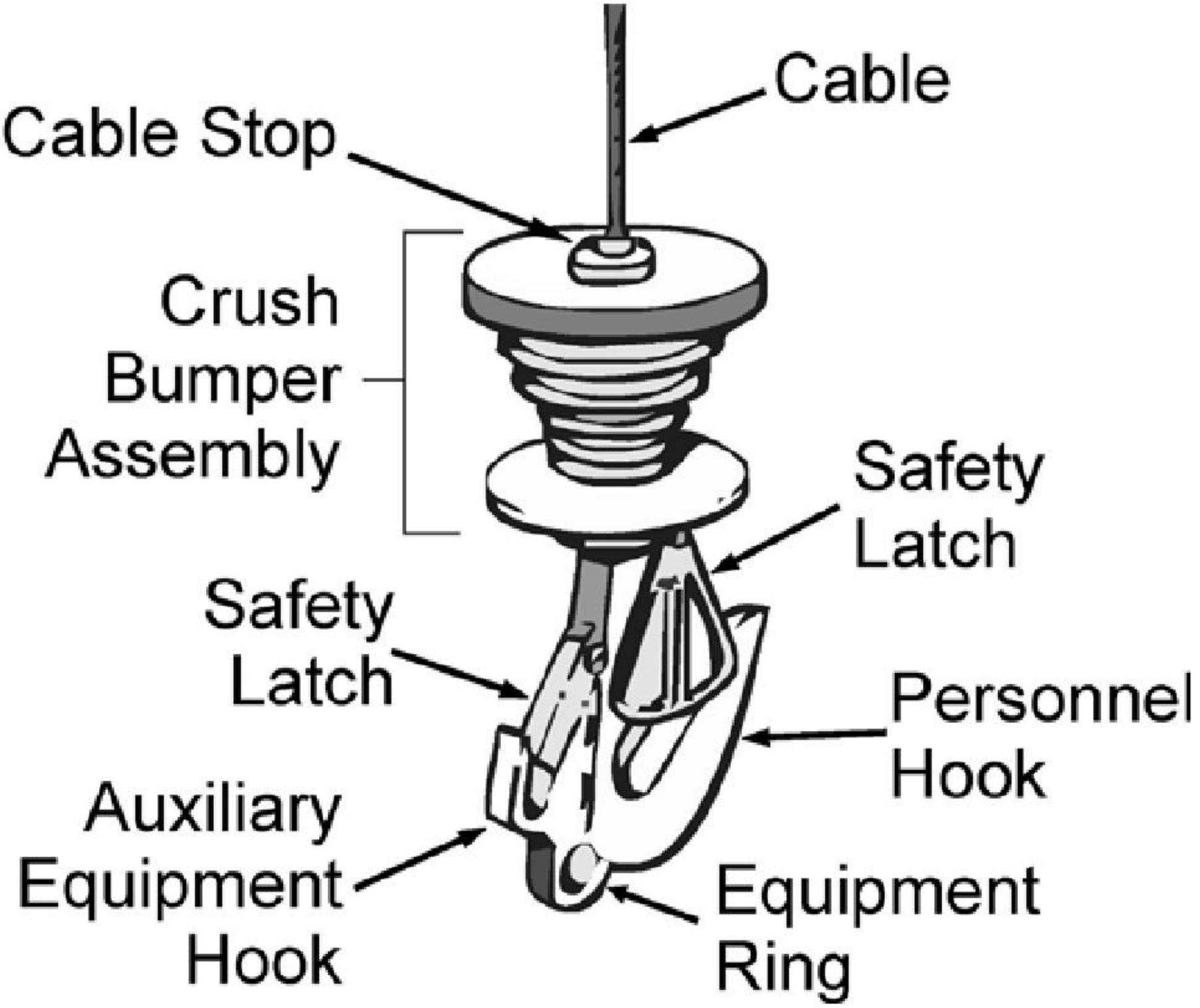
- Personal protective equipment (e.g. gloves, flight helmet, clothing)
- Approach and departure around aircraft
- Location of the first aid kit and any survival equipment
- Location and operation of the fire extinguisher, first aid kit and emergency location transmitter (ELT)
- Emergency electrical and fuel shutoff controls
- Operation of doors and seat belts
- Emergency procedures and exits

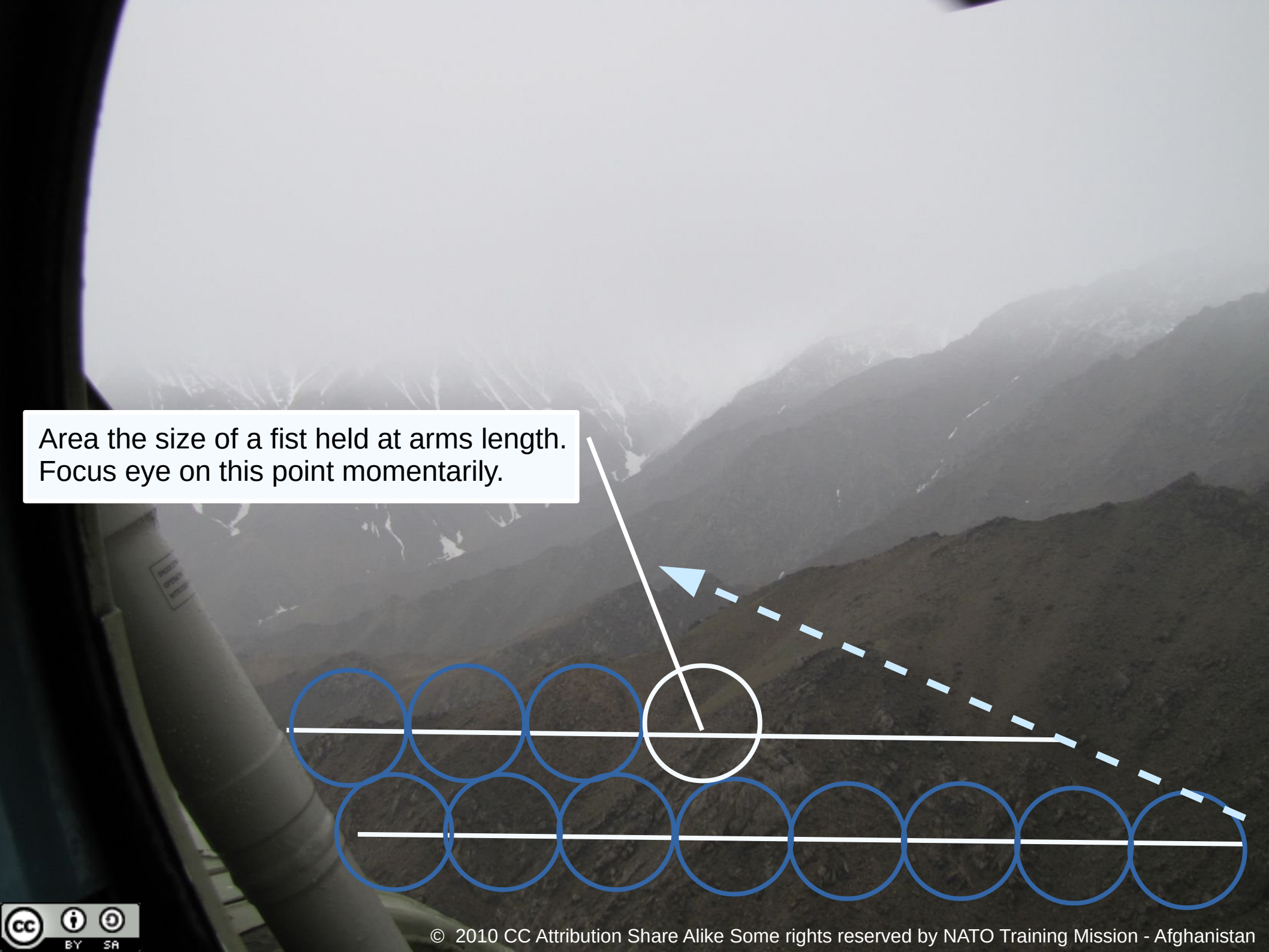
ICS Helicopter Related Locations

Helibase:



Helispot:

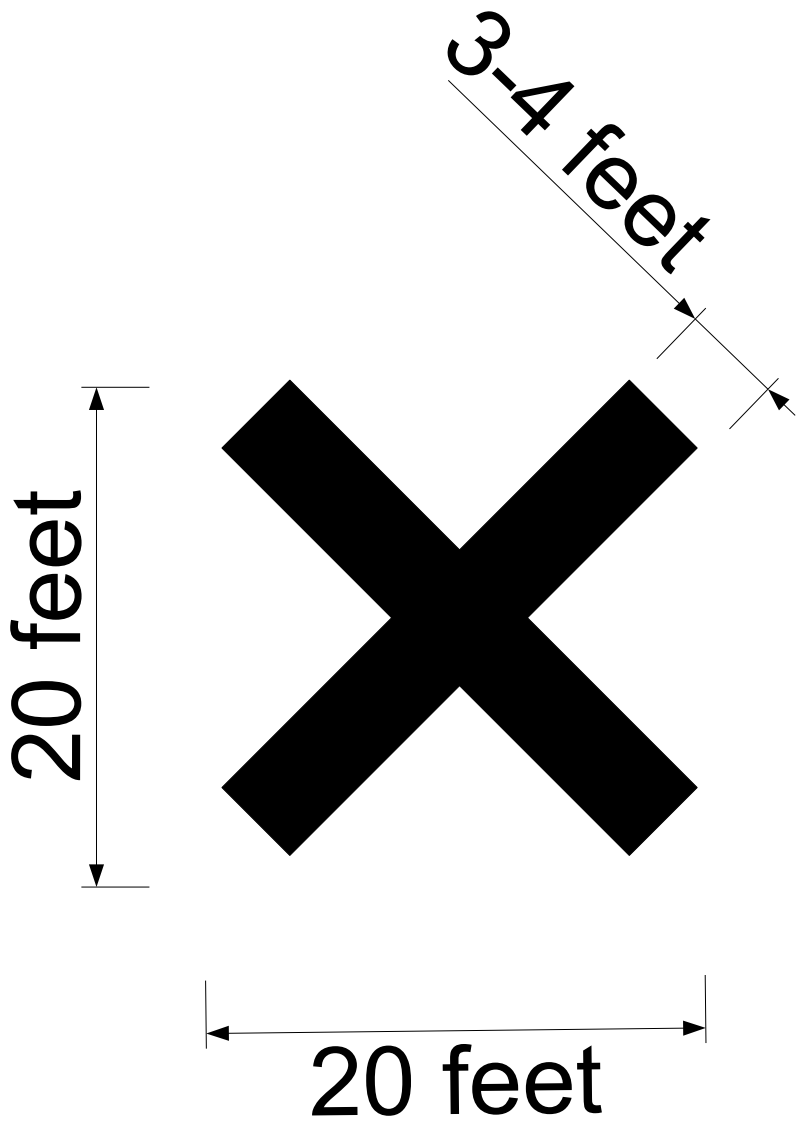

Cable
Cable Stop
Crush
Bumper
Assembly
Safety
Latch
Safety
Latch
Personnel
Hook
Auxiliary
Equipment
Hook
Equipment
Ring



Air Observing

- Highly Fatiguing – limit to 2-3 hour sessions.
- On spotting something, point at it.
  - Note the position of the sighting with respect to landmarks.
  - Notify pilot.
  - Use clock positions to describe location of sighting.

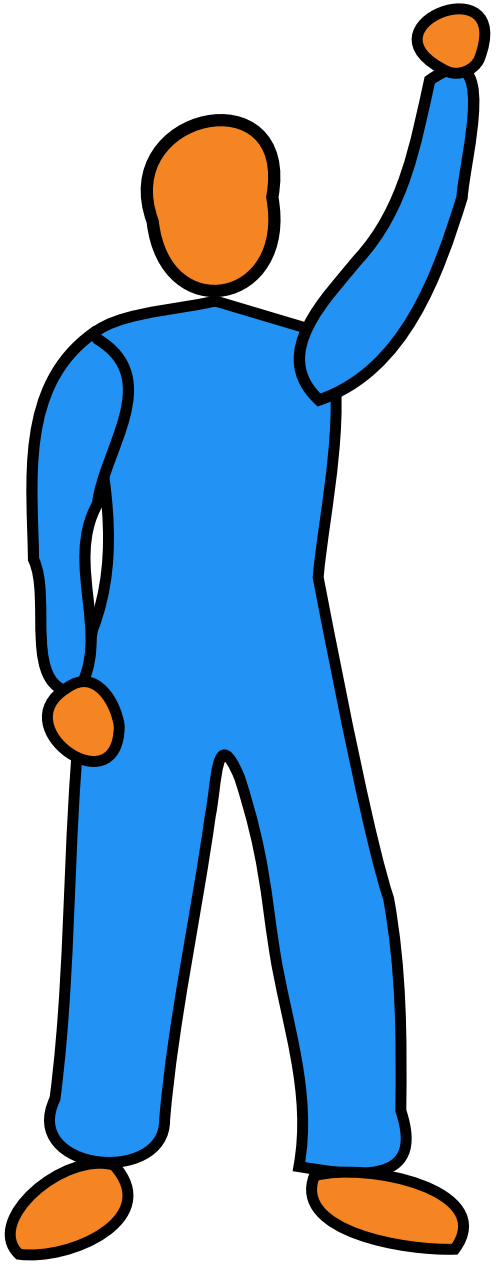
Signals



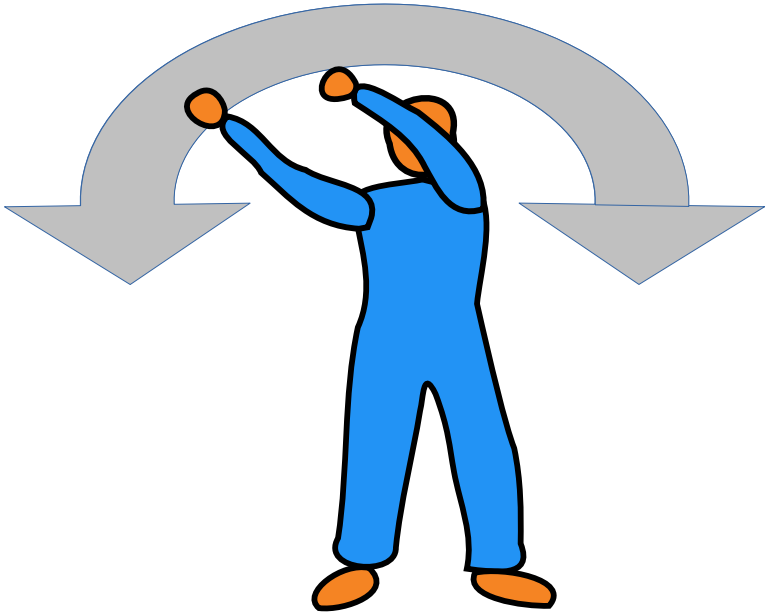
Require Medical Assistance

Require Assistance

Ground to Air Body Signals



All OK



Do not attempt to land here

Ground to Air Body Signals
ASTM F1591-95

WAVE OFF DO NOT LAND
wave arms from horizontal
to crossed overhead.

Interagency Helicopter Hand Signals

Mountain Bikes

Safety

- Trail riding isn’t like riding on the street.
- Be Fit, Hydrate.
- Ride within your skill level. Stay in control of your bike.
- Wear PPE
- Yield to horses: Dismount, wait for them to pass Talk with the riders, they may have seen the subject.
- Yield to other trail users (talk with them).

PPE

- Helmet
- Gloves
- Eye protection
- Appropriate footwear: without laces or keep laces tucked in.
- Layered clothing when cold.
- Suitable clothing for the conditions.
  - Consider protective clothing – padding for hips, elbows, shoulders.
  - Keep pants legs tucked in.

Use in Search

- Rapid coverage of trails.
- Less clue destruction (physical and audible) than ATVs.
  - Stop and check for sign, particularly check track traps.
- Requires PPE
- Unlike horse, rider has to drive.

ATV

- Engine driven, primarily intended for off road travel.
- Definition and regulation varies by state, generally handlebars and a seat straddled by the rider.
- Independent suspension
- Rider Active – operation affected by position of the rider.
- Most are single rider only
  - If designed to carry passengers, requires: extra seat with back, extra footrests, bars for passenger to hold.

Safety

- Obtain specific training (**this isn't it**) before operating an ATV. It is a powerful, dangerous vehicle.
- PPE
- Inspection checklist before use (per owners manual).
- Know your limitations and stay within them.

PPE

- Helmet (meeting state requirements) with face shield or Helmet with shatter resistant goggles.
- Gloves – thick, padded knuckles
- Boots – above ankle, keep clothing tucked in, raised heels, rubber soles.
- Protective clothing – with kneepads, chest protector, padding for hips, elbows, shoulders. Legs: over the calf cut and abrasion resistant protection.
- Layered clothing when cold

ATV: Use In SAR

- Fast, can haul loads.
  - Logistic support for rescue operations
- Loud, destructive.
  - Stop to listen.
  - Stop to check for sign – particular attention to track traps
- Focus on Safety
- Interacting with mounted SAR:
  - Pull over, stop, turn off engine, remove helmet.

Snowmobile

Safety

- Obtain specific training (this isn't it) in operation.

Snowmobile: Use in SAR

- Fast, effective cross country transport on snow.
- Loud
  - If in Locate phase, consider stopping regularly and moving away from the machine for sound sweeps.
- Destructive
  - Watch for Clues
  - Check choke points on travel routes carefully for sign.

Advantages/Disadvantages?

- Equine
- Mountain Bike
- ATV
- Snowmobile
- Foot