



SURVIVAL FLIGHT

*Landing Zone and
Aircraft Safety Training*

Dispatch 1-877-581-5558

Objectives

To Learn:

To identify the two most dangerous parts of the aircraft.

To identify the special features of the Bell 206 L-4

The minimum landing zone requirements for day and night

To identify ideal landing surfaces

Operational weather minimums

Other important safety items

The advantages of air transportation



Bell 206 Long Ranger IV

Survival Five based at
Jersey Community Hospital
in Jerseyville, IL

Bell 206 Long Ranger IV

Turbine Engine: 650 horse power

**Total Weight of Aircraft: 2800 lbs. empty
4450 lbs. max gross**

Patient Weight Capacity: changes daily depending on crew and fuel load, but generally 400lbs.

Fuel Capacity: 110 gallons/750 pounds

Fuel Consumed per hour: 220 pounds

(www.bellhelicopter.com/en_US/Commercial/Bell206L-4/1291148332448.html)

The Two Most Dangerous Parts of the Aircraft

Main Rotor: 37 feet total length.
Rotates at 413 RPMs
Can flap to less than 6 feet above the ground.

Tail Rotor: 5.4 feet total length.
Rotates at 2000 RPMs
3 feet above the ground.
Is practically invisible when aircraft is running

(www.bellhelicopter.com)

What makes Survival Flight different?

Survival Flight has the capability to take a family member, security guard, police officer or another person along on the flight at the crew's discretion.

Because we utilize the L4, we have a heavier lift capacity. Many days our patient, or combined patient/ride along weight capacity is 400lbs. or more.

The use of a satellite phone for communication

Air Conditioned cabin for patient comfort.

Crew Configuration

Pilot: Minimum of 2000 hours of total flight time.

- 1000 hours of turbine time is also required.

Paramedic: Minimum of 3 years on busy 911 service.

- BLS, ACLS, ITLS, PALS certifications required in addition to monthly continuing education

Nurse: Minimum of 3 years ER or ICU experience.

- BLS, ACLS, ITLS, PALS, TNCC certifications required in addition to monthly continuing education

Survival Flight Communication

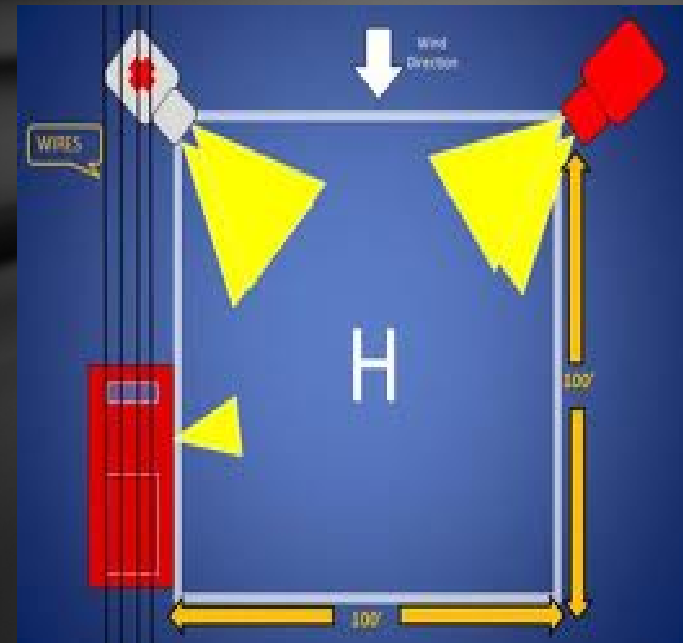
All Survival Flight aircraft are equipped with multiple onboard radios to enable communication with air traffic control, hospitals, pre-hospital units and dispatch centers, as well as the Survival Flight Communications Center.

The flight team will establish communication with requesting agencies in flight. The pilot will communicate with personnel at the landing site in order to obtain information to ensure a safe landing and subsequent departure. Aircraft are followed by our Communications center utilizing a satellite tracking system.



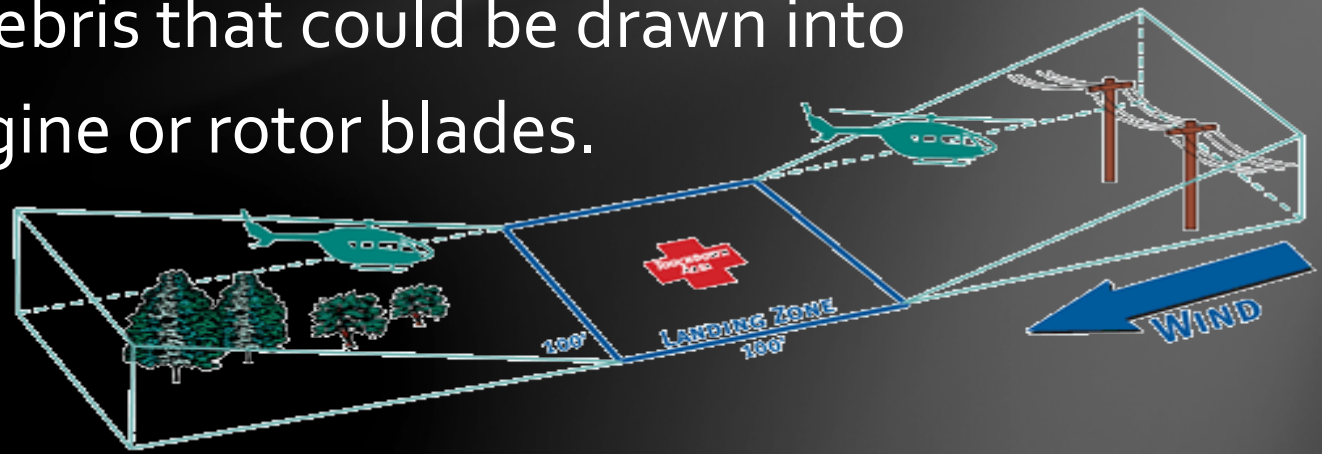
Landing Zone Requirements

- Minimum of 75'x75' during the day
- Mark LZ with cones, strobes, flares at corners
- Minimum of 100' x 100' at night
- Mark LZ with strobes, flares, reflective markers or headlights at the corners
- Landing site must be free of debris



Items to communicate to the Pilot prior to the aircraft landing :

- Location of any wires
- Fences or road signs
- Any slopes, cannot land if slope is greater than 10 degrees
- Wind direction: the pilot will land into the wind if possible
- Trash or debris that could be drawn into the engine or rotor blades.



Surfaces

- Flat, paved surfaces are preferred
- Fields with grass less than 12 inches to protect the belly of aircraft and tail-rotor
- Gravel is not ideal as the rotor wash may project the gravel
- Sand is not ideal as it will also fly and could be pulled into the engine.



Mud can allow the aircraft skids to sink into or adhere to the ground, either of which could potentially cause dynamic rollover

Surfaces

Dirt can cause a “brown-out” condition



Snow can cause a “white out” condition



Dynamic Rollover

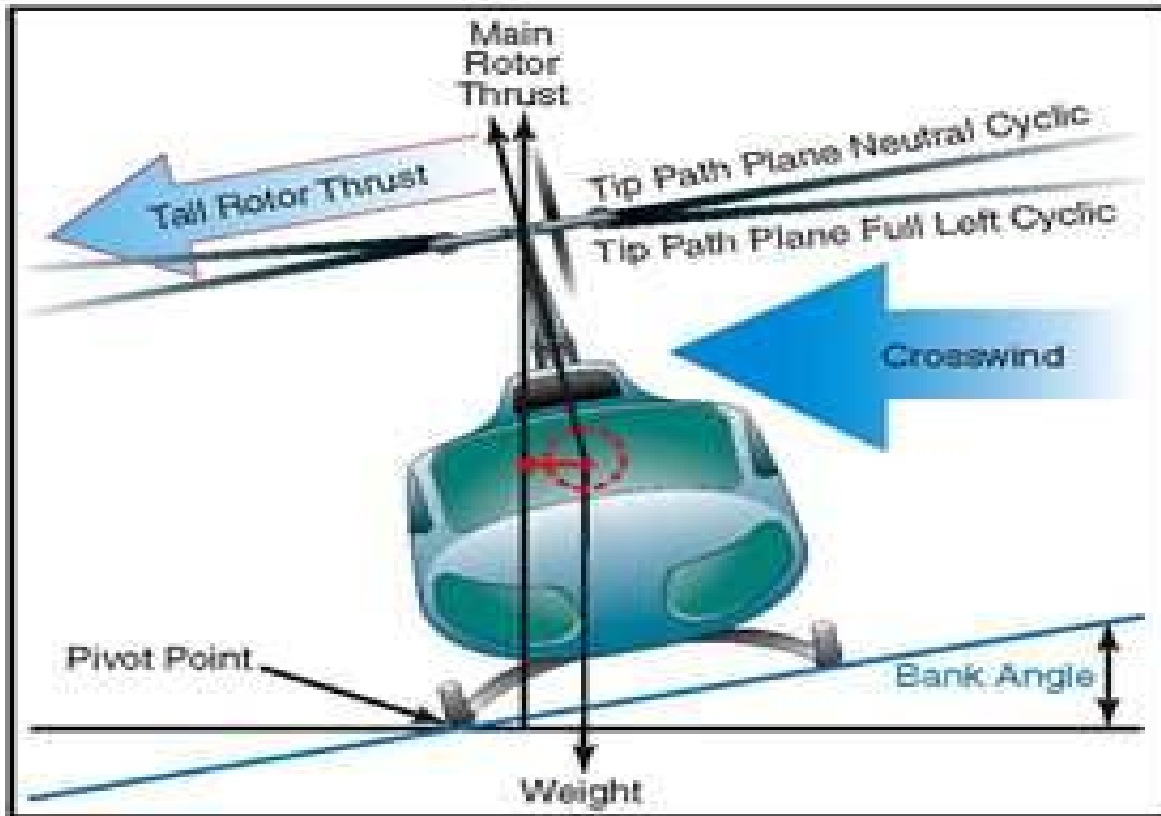


Figure 11-6. Forces acting on a helicopter with right skid on the ground.

For dynamic rollover to occur, some factor has to first cause the helicopter to roll or pivot around a skid until its critical rollover angle is reached. Then, beyond this point, main rotor thrust continues the roll and recovery is impossible. If the critical rollover angle is exceeded, the helicopter rolls on its side regardless of the cyclic control corrections made.



Weather Minimums

Ceiling and visibility are used to determine acceptance of a flight request.

Ceiling is the height of the cloud base for the lowest broken or overcast layer

Visibility is: The distance at which a given standard object can be seen and identified with the unaided eye

Daytime: 800 FT ceiling with 3 miles visibility

Nighttime: 1000FT ceiling with 5 miles visibility



Weather Limitations

- Manufacturer limitation of 45 knots (over 50 mph).
(This pertains to rotor start and stop.)
- Winds can cause the rotor to flap excessively and could potentially cause damage to the aircraft
- Wind gusts spreads greater than 15 knots limit the capability of the aircraft
- Have the ability to travel around thunderstorms not through them
- Turbulence is a factor taken into consideration for patient comfort and safety



Safety is Our Number 1 Priority

Helicopters should always be approached with caution. Please follow these safety tips:

- Do not approach the helicopter unless escorted by flight crew or with permission of the pilot.
- Always approach the helicopter from the front, within full view of the pilot, never from the rear.
- Watch for inclines at landing zones.
- Do not bring the patient to the helicopter; the medical crew will come to you.
- Keep all persons back at least 100 feet from the landing area.
- All stretchers should have pads, sheets and IV poles removed or secured; they can be blown off and create a significant safety hazard.

Safety is Our Number 1 Priority

- The flight team directs the loading and unloading of the patient and equipment, including operation of all aircraft doors.
- No smoking or running.
- Keep hats and other loose objects at least 100 feet away from the aircraft.
- Protect yourself and patients from rotor wash; rotors generate winds of up to 120 mph.
- Use eye protection and hearing protection, if available.
- It is normal for the medical team to exit the aircraft before the blades have stopped turning; do not take this as a signal to approach the helicopter.

Approaching the Aircraft



Using a clock position with the nose always being 12 o'clock, approach the aircraft from the 3 o'clock to 9 o'clock positions, only after getting a signal from the pilot to approach.

The Medical Side of Critical Care Transport

Non-Invasive Monitoring ECG, ETCO₂, pulse, BP

Invasive Monitoring of Art lines, Swan Ganz catheters,

- Hemodynamic monitoring such as SVR, PCWP, CVP, PVR, and SV.

Defibrillator and Pacing Capabilities

Intubation

RSI capabilities

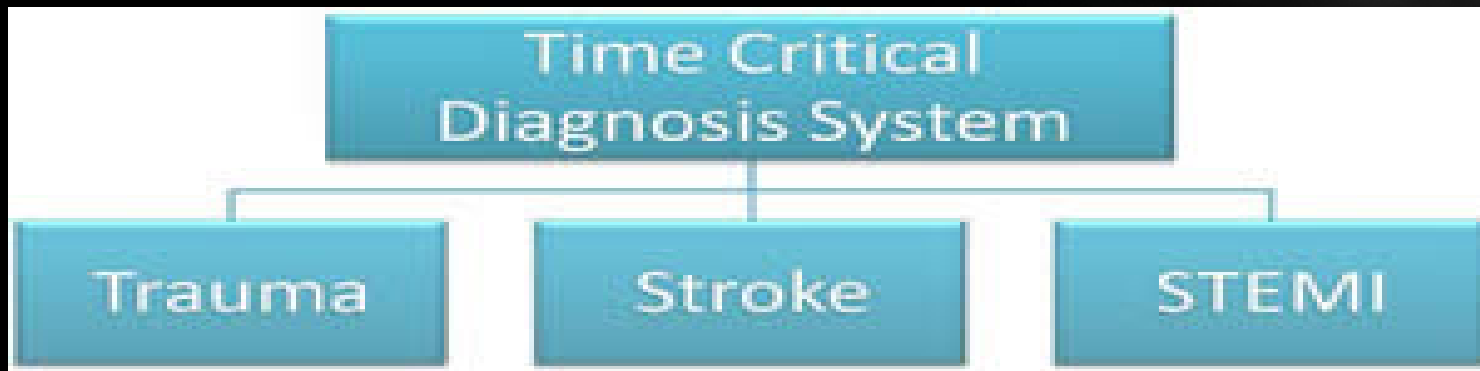
Ventilator capabilities

CPAP equipped

Needle Decompression

Full range of medications including Dopamine, Dobutamine, Lidocaine, Amiodarone, and Nitroglycerin

Time Critical Diagnosis



The appropriate use of air medical services will aid these patients in receiving the best care at the most appropriate facility within the designated time frame.

The advantage of air versus ground

Decrease time to definitive care within the “Golden Hour” by eliminating traffic and flying in a direct path to the most appropriate facility



Questions ??????



Contact Survival Five at 618 -498-8359

References

Bell Helicopter. <http://www.bellhelicopter.com>

Thank You



Be Safe