



- ▶ ESTABLISHING A MULTIPLE HELICOPTER LANDING ZONE AT THE ACCIDENT SCENE 1-3
- ▶ SPOTLIGHT'S ON: WEATHER IMPEDES MULTIPLE CREW RESCUE 4
- ▶ THE DEFINITION OF TEAM: FLIGHT PHYSICIAN COMPONENT 6



MetroHealth Medical Center

Department of Surgery

Division of Trauma, Critical Care, Burns and Metro Life Flight

Establishing a Multiple Helicopter Landing Zone at the Accident Scene

By Myron Koyle, Safety Manager/Pilot-in-Command

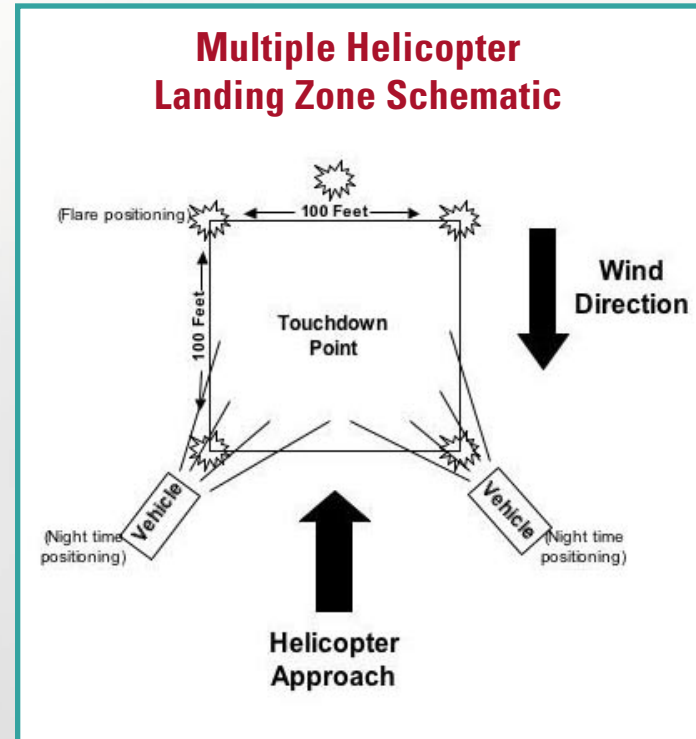


Planning for Landing Zones at accident scenes requires advance preparation and knowledge of helicopter operations. When multiple helicopters are required, there are even more variables to consider. Advanced training at your site will enhance your ability to set up multiple landing zones when faced with actual conditions.

First, let's discuss establishing a Landing Zone (LZ) that meets the minimum standards for safe operations. If the immediate area does not permit safe operations, it will be necessary to look at nearby areas that meet these standards. Keep in mind that it may be necessary to establish several LZs for multiple aircraft if one large one is not possible. So, when establishing an LZ, we recommend the following steps:

- A. First, determine if the area is large enough to land helicopters safely. The landing area must be a minimum size of 100' x 100' per helicopter that is anticipated to land. This space does not have to be symmetrical, as long as the basic dimensions exist.
- B. The landing area should be flat and firm if possible. It must be free of debris that could be blown by the rotor wash and cause damage to the aircraft, surrounding structures, vehicles, and people.
- C. The landing area should be clear of people, vehicles, and obstructions such as poles and wires. Wires are very difficult to see from the air, particularly at night, so communication of this hazard is critical to the aircrew. The landing area must also be free of stumps, brush, posts, and large rocks.
- D. Determine the wind direction. Helicopters take off and land into the wind, so check if the approach and departure paths are free of obstructions (poles, wires, antennas, trees, etc.). If there are obstructions, again please communicate this to the aircrew.

- E. Mark the touchdown area with five lights or road flares. Put one in each corner and one forward in the center indicating the wind direction.
- F. When necessary, especially at night, a landing area may be illuminated by motor vehicle lights. Emergency vehicle beacons (flashers) are helpful in identifying the area. Vehicle headlights may be used to illuminate the actual touchdown area using the following procedures.



- (1) Position two low silhouette vehicles just outside the landing area (see Multiple Helicopter Landing Zone Schematic).
- (2) Radio antennas on vehicles must be stowed or removed.
- (3) Use headlights on low beam only.

- (4) The helicopter will approach into the wind, pass between the two vehicles and land in the illuminated area.
- (5) Following the landing, the vehicle lights should be extinguished.
- (6) All vehicles in the area should have emergency flashers in use at all times.

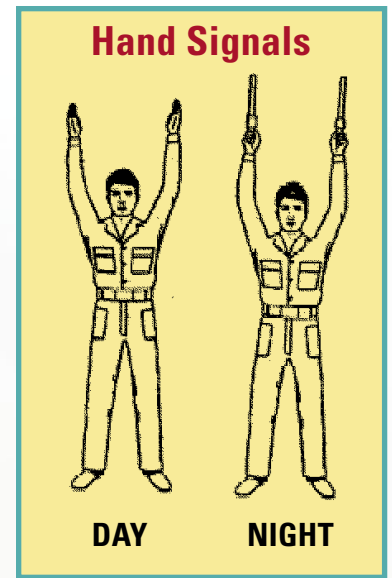
- G. Keep spectators at least 200 feet from the touchdown area and emergency service personnel at least 100 feet away. If available, fire equipment should be standing by. Ensure that everyone who will be working near the helicopter shield their eyes. If eye protection is available, it should be worn. If helmets are worn, chin-straps must be securely fastened. If the ground is dusty, have the firefighters wet down the touchdown area. When the helicopter has landed, do not allow anyone to approach the aircraft or drive a vehicle closer than within 50 feet of the helicopter.

- H. At night, ensure that spotlights, floodlights, and hand lights are not pointed toward the helicopter and turn off non-essential lights. White lights such as spotlights, flashbulbs, and high-beam headlights ruin the pilot's night vision and temporarily blind him. Red lights, however, are very helpful in finding the accident location and do not affect the pilot's night vision.

- I. Communications with the aircrew prior to its arrival is critical. As soon as the first helicopter is within radio range, the crew should contact you. They will ask for an LZ briefing and patient information. The LZ briefing needs to include at a minimum the location and type of landing area with any associated hazards (e.g. open field north of a large barn, tree line to the west with wires along a road to the east. You also have a cell tower located northwest of the field). Keep in mind that if additional LZ's are necessary, this should be communicated as well. After arrival, the crew will orbit the location and perform a reconnaissance (they may confirm hazards or ask for additional information from you at this time). As subsequent aircraft arrive, the same LZ information should be provided to the crew. They may also be in contact with the previous aircraft in order to plan their approach and landing (this will be done on a separate air frequency). Generally the first aircraft in will

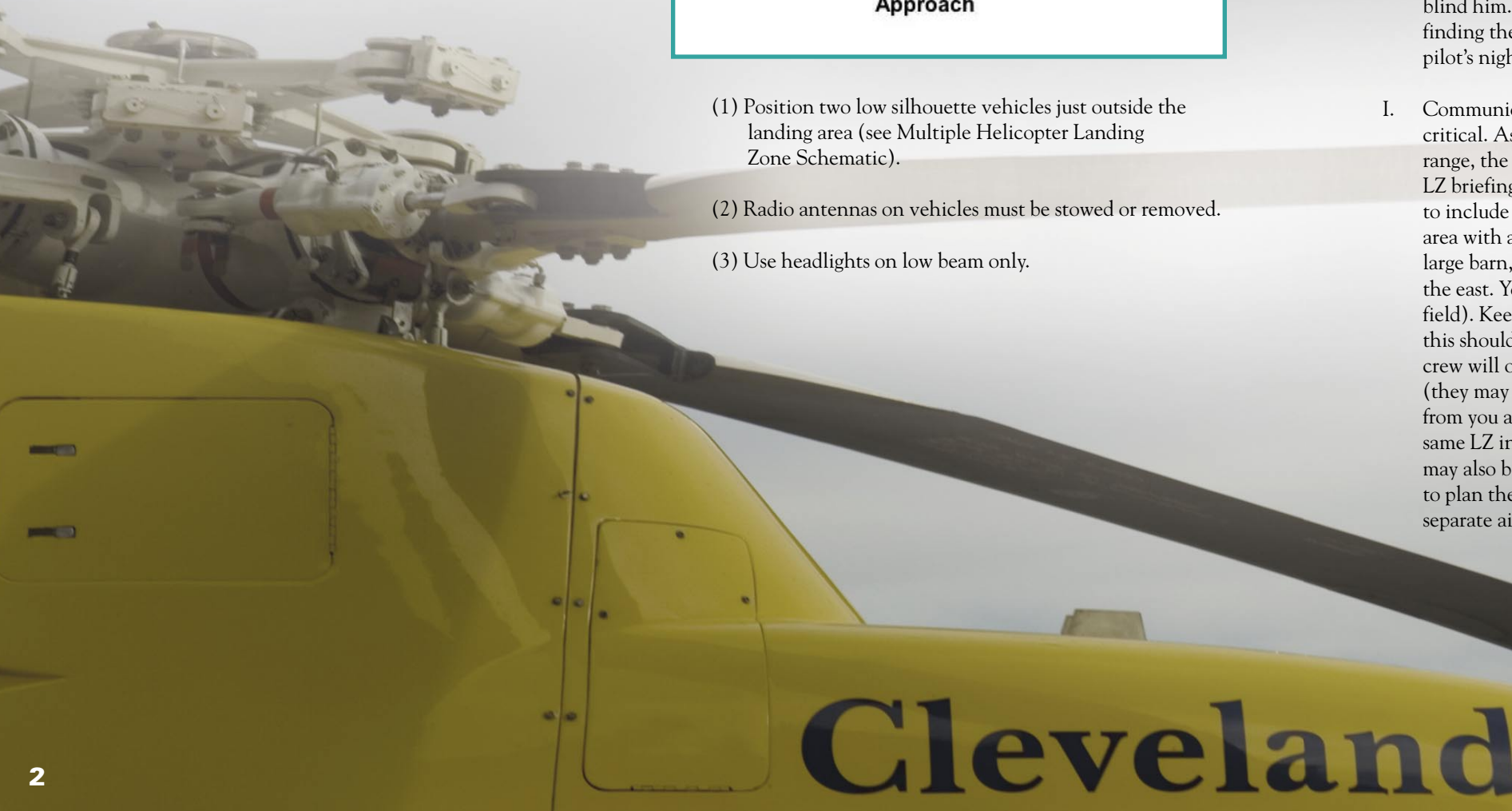
accomplish triage and may position itself in such a way to provide easy ingress/egress of subsequent aircraft from the area (coordination will be accomplished as necessary between aircraft).

- J. When you see the helicopter, one person should help guide it into a safe landing. The ground guide should wear eye protection and stand with his back to the wind and with his arms raised over his head near the forward flare to indicate the landing direction (see Hand Signals Diagram). As the helicopter begins its approach, the ground guide should begin directing the approach using approved hand signals. The ground guide should also be far enough from the touchdown area so that he is safe from the rotor wash.



- K. Once the helicopter has landed, do not approach the helicopter until directed by the crew that it is safe. Be prepared to assist the crew by providing security for the helicopter. If asked to provide security, do not allow anyone but the crew to approach the helicopter.
- L. Once the patient is prepared and ready to load, allow the crew to select two or three personnel to assist in loading. When approaching the helicopter, always be aware of the tail rotor (never approach from the rear) and always follow the crew's directions for your safety. Approach the helicopter from the front at about a 45-degree angle so that the pilot can see you and has made eye contact with you. When approaching the helicopter, remember to keep low to avoid the main rotors (the winds can cause the blades to flex down). If the helicopter has landed on a slope, approach and depart from the down-slope side only. While around the aircraft, please do not run or smoke within 50 feet.
- M. When the helicopter is loaded and ready for take-off, keep the departure path free of vehicles and spectators. If an emergency were to occur, the pilot would need this area to execute his landing.

Setting up a Landing Zone for one or multiple helicopters can be accomplished safely and efficiently if these steps are followed. Planning and conducting regular exercises will promote safe operations. Allow the Metro Life Flight aircrew to help you plan for a safe LZ operation.



Weather Impedes Multiple Crew Rescue

by Brian Carr, RN, BSN, CEN, EMT-P, Flight Nurse Specialist and Scott Russell, R.N., EMT-P, CEN, Flight Nurse Specialist

On the morning of October 11, 2006, there was a heavy rain falling in the Village of Garrettsville, a small community located in Portage County. What seemed like a typical day despite the marginal weather was about to take a different turn for two individuals headed for work on a county road.

The Call for Help

At 7:00 a.m., the Garrettsville Police Department placed a call to Metro Life Flight to report a high-speed, two-car motor vehicle crash. The head-on crash occurred on a two-lane county road in marginal weather conditions. Both cars sustained heavy damage and there were injuries.

The police reported that a male who had sustained injuries was trapped inside of one of the vehicles.

Landing at the Scene

Metro Life Flight 2 was dispatched and landed at approximately 7:30 a.m. in a nearby rain-soaked and muddy field. Aboard Metro Life Flight 2 was Flight Nurse Specialist Scott Russell, RN, EMT-P, CEN, Bogdan Irimies, DO Flight Physician, and pilots Jamal Jamili and Melvin Steedly.

Due to a report of multiple injuries, Metro Life Flight 1 was also dispatched and arrived at 8:08 a.m. The crew included Chief Flight Physician John Pakiela, DO; Flight Nurse Specialist Brian Carr, RN, BSN, CEN, EMT-P; Lead Pilot Jack Alexander; and Check Airman and Instructor John Drago. Circling overhead the accident scene, it was obvious that, due to the muddy conditions, the field where Metro Life Flight 2 landed was not feasible for a second aircraft. The aircraft circled while an alternate Landing Zone (LZ) was set up in a small church parking lot down the road from the accident scene.

The crew of Metro Life Flight 2, which arrived on the scene first, encountered a 35-year-old male being extricated from the vehicle. The patient had major facial trauma with massive bleeding and a left ocular injury and was sitting on a backboard in an attempt to control the bleeding. The squad was trying to get him to lie down, but he was resisting. The patient had a C-collar on, so we moved him sitting up to the squad. We established an IV to provide medication to relax him, then intubated him. This was accomplished quickly without complication.

The Metro Life Flight 1 crew of Dr. Pakiela and Nurse Flight Specialist Carr made their way to the squad after a “hot off load.” The second patient, already in the back of the squad, was awake and alert and had obvious orthopaedic injuries. His right ankle had been splinted by EMS (Community Care Ambulance). His left femur was deformed and swollen and appeared fractured. He had a weak pulse in his left foot. EMS had obtained a large bore IV and was infusing normal saline wide open. We noticed a right wrist deformity as well. Dr. Pakiela was assessing the patient’s Glasgow Coma Scale score (GCS) and the possible need for intubation. Once we determined that the patient’s vital signs were relatively stable and his airway patent, we gave the patient fentanyl and etomidate for pain and sedation. Once the medication began to take effect, we reduced the patient’s femur and placed it in a vacuum splint without any complications. The pulse improved after splinting was completed. A few minutes later, the patient was fully awake with no complaints of pain in his left lower extremity.

As the crew was loading the patient into the aircraft, the patient’s wife arrived and flew with us to Akron City Hospital. During transport, we proceeded to place a second large bore IV and continued to monitor the patient’s vital signs prior to medicating him for pain, using morphine. We splinted the patient’s right wrist and continued to monitor his condition.

The Outcome

Both patients were successfully stabilized and transported to Akron City Hospital where their trauma team assumed their care. “What really made the difference was good teamwork from everyone in the back of the squad,” said Flight Nurse Specialist Russell. “The EMS squad did a great job prior to our arrival,” says Flight Nurse Specialist Carr. Carr also attributes their success to the two pilots. “My hat goes off to the pilots as the weather was challenging and we had to fly around rain. They made multiple approaches to get us to the scene. Their communication regarding changing conditions allowed me to focus on anticipated patient care.”



Cleveland Metro Life Flight Achieves CAMTS Re-Accreditation

Metro Life Flight is once again pleased to announce our re-accreditation from the Commission on Accreditation of Medical Transport Services (CAMTS). A site survey was conducted to evaluate Metro Life Flight’s compliance with nationally established medical transport standards. The standards relate to issues of patient care and safety of the transport environment. Metro Life Flight first achieved accreditation by the CAMTS Board of Directors in 1994, and has maintained the accreditation since then. Achieving CAMTS accreditation involves a voluntary evaluation of compliance with Accreditation Standards by an independent body. Accreditation Standards are the criteria used to measure a program’s level of quality. Members of 12 national medical and aviation associations whose highest priorities are patient care and safety in the transport environment direct the CAMTS Standards.



The Definition of TEAM

Flight Physician Component: The Difference Is Critical

Metro Life Flight is one of only a few services nationwide that flies with a physician on board every transport. Fewer than 5 percent of flight programs in the United States have this distinction. Since 1982, the mission of Metro Life Flight has been to bring the tertiary care center to the patient, if they are in a community hospital or at an accident scene.

Having physicians as part of the flight team not only brings an advanced knowledge base, but the advanced skill set required to effectively treat critically ill and injured patients. Metro Life Flight physicians are able to perform the same life-saving procedures that are done at the tertiary center in the field and at smaller community hospitals. The institution of these time-dependent and critical interventions has been shown to have a direct effect on patient outcomes. These techniques include advanced airway procedures and the surgical science of resuscitation.

All of the Metro Life Flight physicians have backgrounds in critical care and have been primarily trained in the fields of Emergency Medicine or Surgery. They are currently practicing in health care facilities throughout Northeast Ohio and beyond, in addition to their responsibilities at Metro Life Flight.



"I continue to fly as a flight physician because I believe that I, as a board-certified emergency physician, bring additional resources to the patients that we serve. With the wealth of health care resources in Northeast Ohio, if patients require air transport, then they should have advanced modes of transport with capabilities to match their illnesses," said Chris Gaskins, MD, FACEP, flight physician since 1996 and attending emergency physician at Hillcrest Hospital. All flight physicians are certified in Advanced Trauma Life Support (ATLS), Advanced Cardiac Life Support (ACLS), and Pediatric Advanced Life Support (PALS). Additionally, the physicians are actively involved in research and scientific studies with the flight

program. These include the first use of ultrasound in the air medical environment, in addition to ongoing research on airway, conscious sedation, analgesia, and toxicology. (For an update on Metro Life Flight's latest research study, please go to our web site at: metrolifeflight.metrohealth.org and look for the Fall 2006 newsletter under the Education tab.)

Finally, it's comforting to know that your patients, whether they are being transferred from the scene or from another medical facility, are receiving the highest level of care.



Toy Drive Benefits PICU Patients

Metro Life Flight presents toys to children in the Pediatric Intensive Care Unit. The toy drive was spearheaded by Brian Carr, Nurse Flight Specialist for Metro Life Flight (not pictured because he was mobilized for a mission).



Save the Date

2007 Metro Life Flight Critical Care Symposium

Mark your calendars and join us **May 9, 10, and 11** — LaCentre Conference and Banquet Facility
25777 Detroit Road, Westlake, Ohio 44145

Come hear the experts discuss prehospital and critical care topics. Look for registration materials in the mail soon.

Pre-Conference Workshops include:
Prehospital Education for Pediatric Providers (PEPP)
Advanced Burn Life Support (ABLS)
Critical Care Registered Nurse (CCRN) Review Course

Guest speakers include:
David B. Hoyt, MD, FACS
Professor and Chairman
Department of Surgery at the
University of California, Irvine

W. Frank Peacock, MD
Emergency Medicine
Cleveland Clinic Foundation

Dr. Greg Nemunaitis
Department of Rehabilitation
MetroHealth Medical Center



Metro Life Flight Merchandise

The full line of Metro Life Flight merchandise can be viewed online at metrolifeflight.metrohealth.org.

To order, print out the order form and mail it to the address below. Don't forget to include \$3 for shipping and handling.

Long Sleeve Gray T-shirt with Embroidered Logo

	Price	Quantity	Subtotal
<input type="checkbox"/> S	\$20	_____	_____
<input type="checkbox"/> M	\$20	_____	_____
<input type="checkbox"/> L	\$20	_____	_____
<input type="checkbox"/> XL	\$20	_____	_____
<input type="checkbox"/> XXL	\$20	_____	_____

Hooded Zippered Sweatshirt with Embroidered Logo

	Price	Quantity	Subtotal
<input type="checkbox"/> S	\$35	_____	_____
<input type="checkbox"/> M	\$35	_____	_____
<input type="checkbox"/> L	\$35	_____	_____
<input type="checkbox"/> XL	\$35	_____	_____
<input type="checkbox"/> XXL	\$35	_____	_____

Lanyard \$5

	Quantity	Subtotal
<input type="checkbox"/>	_____	_____

Flex Fit Cap \$15

	Quantity	Subtotal
<input type="checkbox"/>	_____	_____
Shipping/Handling		\$3.00
Total Enclosed		_____

All proceeds benefit Metro Life Flight's ongoing educational outreach. Thank you for your support!

Make check or money order payable to:
Metro Life Flight
2500 MetroHealth Drive
Cleveland, OH 44109

Do not send cash. Credit cards not accepted.

Name _____

Address _____

City _____ State _____ Zip _____

Phone () _____

Meet the Crew

Debra Boyd, flight nurse specialist, began her nursing career at Akron General Medical Center where she worked for over 10 years in critical care with a focus on cardiology. She spent several years in the Catherization/Electrophysiology Lab and Interventional Radiology Lab. In 2003, she joined Wooster Community Hospital and helped open a new diagnostic Catherization Lab.

Debra earned her associate degree of science at Lorain County Community College in Elyria, Ohio. Prior to joining Metro Life Flight in October 2005, Debra worked in the Emergency Department at MetroHealth Medical Center.

“During my years in critical care, I was often in contact with the Metro Life Flight crew. I was so impressed with their knowledge and professionalism that I decided to become one of them. I cannot think of a better way to use my critical care skills and build on them at the same time. I have enjoyed every moment of it.”

Debra and her husband Jim, who is also a registered nurse, are the proud parents of 12-year-old Krista and 9-year-old Garrett. They live in Medina and enjoy boating and horseback riding with their family. Debra also enjoys reading and painting.



Debra L. Boyd,
RN, NREMT-B

Metro Life Flight is the region's only critical care transport service with a physician and registered nurse on every mission. Ask for Metro Life Flight by name. The difference is critical.



MetroHealth Medical Center

Department of Surgery

Division of Trauma, Critical Care, Burns and Metro Life Flight

Metro Life Flight
MetroHealth Medical Center
2500 MetroHealth Drive
Cleveland, Ohio 44109-1998

www.metrolifeflight.metrohealth.org

News from Metro Life Flight
is produced by the MetroHealth System,
2500 MetroHealth Drive,
Cleveland, Ohio 44109-1988.

Direct all questions to the Division of Trauma,
Critical Care, Burns, and Metro Life Flight at
216-778-3090.

No material may be printed or reproduced
without written consent of the division.

Editorial Board:
Andrea Adoni, RN; Charlene Mancuso, RN;
Laura McGing, EMT-P; Marek Owca, RN;
John Pakiel, DO; Nancy Papes, RN;
Scott Russell, RN, EMT-P; Jo Donofrio

Design: Creative Works Inc.

Presort Std
U.S. Postage
PAID
Cleveland, Ohio
Permit No. 1