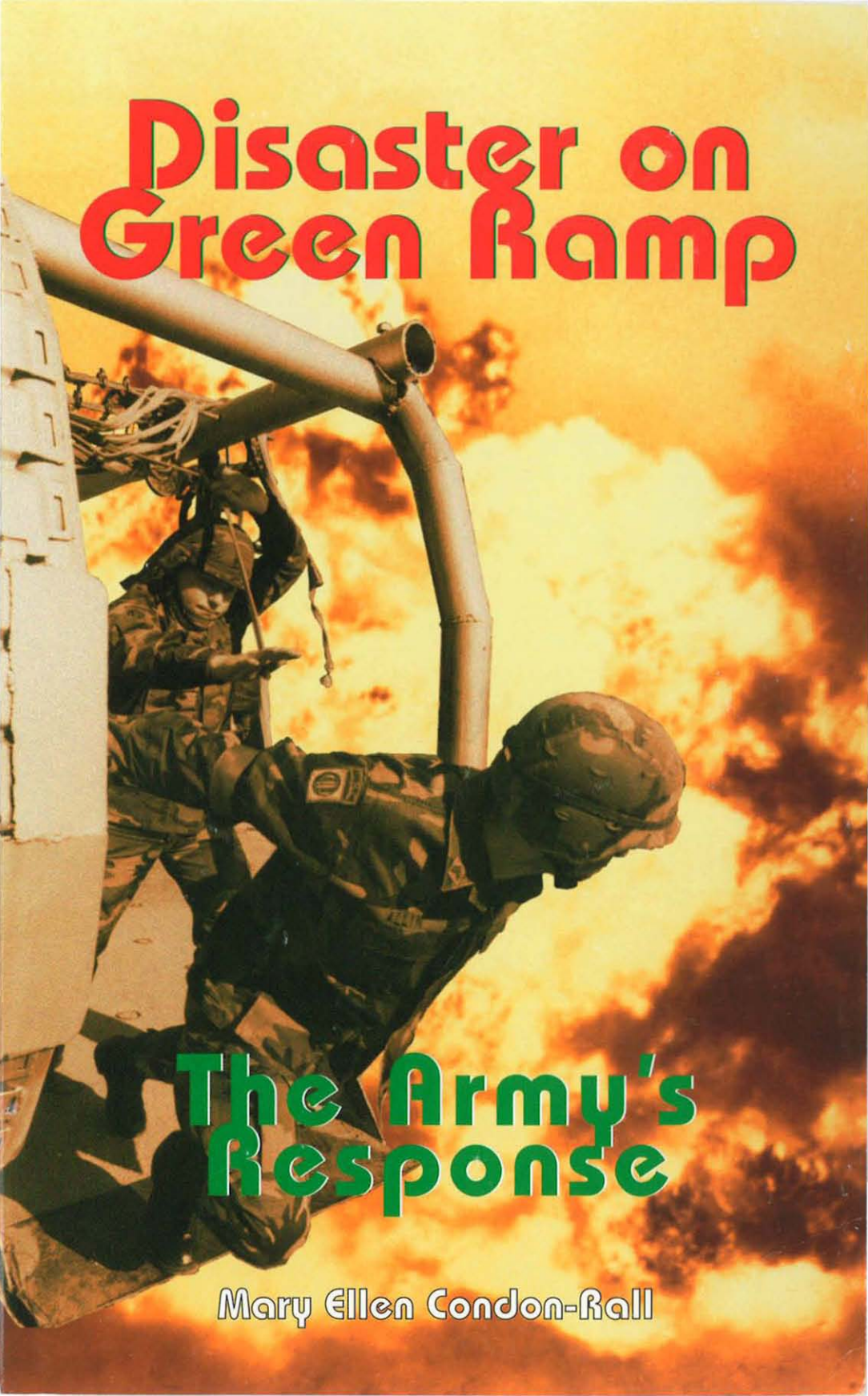
Disaster on Green Ramp



The Army's Response

Mary Ellen Condon-Rall

Disaster on Green Ramp

"It was soldiers saving soldiers. Soldiers putting out fires on other soldiers; soldiers dragging soldiers out of fires; resuscitating; giving soldiers CPR; putting tourniquets on limbs that had been severed. . . . Anything they could do to care for their buddies that were more seriously injured they were doing. They can't do that without knowing how. They responded the way they would in combat."

—Maj. Gen. William M. Steele

Disaster on Green Ramp:
The Army's Response

by

Mary Ellen Condon-Rall



CENTER OF MILITARY HISTORY
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...To the Heroes of Green Ramp

Foreword

Disaster on Green Ramp: The Army's Response is a powerful story of pain, terror, pride, courage, and compassion. It celebrates the magnificent spirit of the men and women who make up America's military community.

This work describes the Army's exceptionally effective response to the tragic events on 23 March 1994 at Pope Air Force Base, North Carolina. On that day a large number of Army paratroopers from nearby Fort Bragg had assembled in an area adjacent to the airstrip known as Green Ramp, preparing to board a transport that would carry them aloft for a training parachute jump. They never made that jump. Shortly after 1400 hours two aircraft attempted to land simultaneously at Pope. The resulting crash produced a massive fire that brought death or injury to more than a hundred paratroopers—the worst peacetime loss of life suffered by the 82d Airborne Division since World War II.

You will recognize the troopers, doctors, medics, chaplains, volunteers, and family members who triumphed over tragedy; some by name, but most by type. They are, in truth, much like you and me—essentially ordinary people cast in extraordinary roles by fate. What they shared was a fierce loyalty to one another.

The Center of Military History is proud to present this study, which is largely based upon the first-person accounts of those involved. I urge you to read it, to reflect on the insights shared by those who made history, and to discuss it within your own unit and organization. It is a story worth telling again and again.

Washington, D.C.
1 April 1996

JOHN W. MOUNTCASTLE
Brigadier General, USA
Chief of Military History

The Author

Mary Ellen Condon-Rall was born in Brooklyn, New York, where she received her primary and secondary education. She earned her B.A. and M.A. degrees respectively from Molloy College for Women and Fordham University, both in the New York area, and her Ph.D. degree from the University College of the University of London in England. Beginning in 1972, she started her career as a historian with The Historical Unit of the U.S. Army Medical Department and, in 1976, when The Historical Unit was absorbed, moved to the U.S. Army Center of Military History, where she is a member of the Military Studies Branch of the Research and Analysis Division. In 1990 Dr. Condon-Rall was awarded a one-year Secretary of the Army Research and Study Fellowship. In addition to completing a monograph on host nation medical support during the Gulf War and a chapter on the history of military anesthesia in the *Anesthesia and Perioperative Care of the Combat Casualty* volume of *The Textbook of Military Medicine*, she has coauthored the forthcoming volume *The Medical Department: Medical Service in the War Against Japan*. She also has contributed numerous articles on military medicine and naval history in American, British, and Australian journals.

Preface

This is the story of the Army's response to the disaster on Green Ramp at Pope Air Force Base on 23 March 1994. Professionalism, training, and teamwork turned an essentially tragic story into a triumphant one: Twenty-four paratroopers perished, but more than a hundred were saved. A quick-reaction mission and numerous deployments made it possible for Fort Bragg's elite XVIII Airborne Corps and its 82d Airborne Division and 44th Medical Brigade, as well as Womack Army Medical Center, to respond rapidly and effectively to the crisis. Training and teamwork also worked for Fort Sam Houston, Brooke Army Medical Center, and the U.S. Army Institute of Surgical Research, where the severely burned received care. The narrative focuses on the immediate response to the accident, medical treatment of the burn victims, command and control at emergency operations centers, family assistance, and the survivors themselves. The roles of mental health specialists, chaplains, public affairs officers, and Army leaders are also examined.

The idea for this study originated with Army Chief of Staff General Gordon R. Sullivan, who, after visiting the injured paratroopers at Fort Bragg several days after the incident, tasked the Center of Military History to capture the story of the Army's response. In April and May 1994 an Army history team, consisting of historians from the 44th Military History Detachment, the Office of the Surgeon General, and the Center of Military History, interviewed participants in the response at Fort Bragg and Fort Sam Houston. One year later Brig. Gen. John W. Mountcastle, the Center's chief of military history, gave the writing project a top priority, and work commenced on it in May 1995.

Special acknowledgments must be made to many individuals for their unstinting support in the preparation of this book. For conducting the oral histories and for collecting the bulk of supporting documents on which this study is based, I am indebted to the Army history team—Maj. Christopher G. Clark and Sgt. Patricia Lewis of the 44th Military History Detachment, Col. Mary T. Sarnecky, ANC, of the Office of the

Surgeon General, and Lt. Col. Iris J. West, ANC, the team leader and my former colleague at the Center, who was invaluable to me in selecting the most informative of the oral histories for my use. And to Col. Stephen L. Jones, MC, the former deputy commander of Womack Army Medical Center, who assisted me immeasurably, I express my gratitude. He guided me around Fort Bragg and the Womack Army Medical Center; saw to it that Womack's various departments wrote after-action reports, which he collected and gave to me; and was instrumental in my obtaining the after-action reports of Brooke Army Medical Center and the U.S. Army Institute of Surgical Research.

My understanding of the events benefited greatly from the perceptive comments and constructive suggestions of many reviewers. For graciously reading all or parts of my manuscript, I extend my sincere thanks to not only the participants in the Army's response—Colonel Jones, Maj. Gen. William M. Steele, Pam Steele, Col. Elisabeth Greenfield, Margaret Tippy, Joseph Hibst, and Cynthia Hayden—but also to my fellow historians at the Center—General Mountcastle, Dr. Jeffery J. Clarke, Dr. Edward J. Drea, and especially Dr. Robert K. Wright, the former XVIII Airborne Corps historian. Their insights were pivotal to the development of my narrative.

The contributions of my talented colleagues at the Center are deserving of praise. Maj. Curtis E. Croom collected data on the twenty-four deceased paratroopers, located photographs, and prepared initial sketches. Sherry L. Dowdy used her cartographic skills to create the map; John Birmingham, his creative talents to design the cover; Arthur S. Hardyman and Beth F. MacKenzie, their desktop publishing art to craft the book; and W. Scott Janes, his eagle eyes to proofread the text. Finally, Joanne M. Brignolo edited the volume. Her literary skills, meticulousness, and hard work have made this a better study. By putting her heart and soul into this project, she helped me to improve the narrative flow and to meet the short deadline.

Many other individuals also merit special recognition: M. Sgt. Vickie L. Freed and S. Sgt. Marjorie A. Bottila of the U.S. Army Reserve Personnel Center, in St. Louis, Missouri, Linda Bowman and Charlotte R. Guy of the Army Reference Branch, National Personnel Records Center, National Archives and Records Administration, in St. Louis, Missouri, and Joyce Dabbs of the Separation Records Branch, U.S. Army Enlisted Records, at Fort Benjamin Harrison, Indiana, for verifying the information in the Appendix; Pete Peterson of the Officer

Records Branch, Personnel Information Management Division, U.S. Total Army Personnel Command, for making it possible to locate two of the participants; Lt. Col. Jane Boyd, a Signal Corps officer on the Army Staff, for explaining the satellite communications system used by the 82d Airborne Division liaison team; and Hope Ramirez, Christopher J. Burson, Jacob T. Naeyaert, Jr., Spc. Michael P. Fletcher, C. Craig Corey, William F. McManus, Col. Elisabeth Greenfield, Margaret Tippy, Anne McChrystal, Maj. James B. Rich, and Maj. Gerald K. Bebber for donating their personal photographs.

All of the people above gave generously of their time, knowledge, skill, and property to help me tell this compelling story. In doing so, we willingly became team members in the Army's response to the disaster on Green Ramp. I deeply regret that I could not tell everyone's story, but trust that this book contributes to the healing process. For any errors remaining in the volume, I alone am responsible.

Washington, D.C.
1 April 1996

MARY ELLEN CONDON-RALL

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Disaster on Green Ramp



Wreckage of a C–141 Starlifter. After a midair collision an F–16D Fighting Falcon plummeted to the ground and subsequently hit one of the parked C–141s. The resulting fireball roared through the Green Ramp staging area, bringing death or injury to Army paratroopers undergoing pre-jump exercises. Note the burned portions of the staging area.

1

The Heroes of Green Ramp

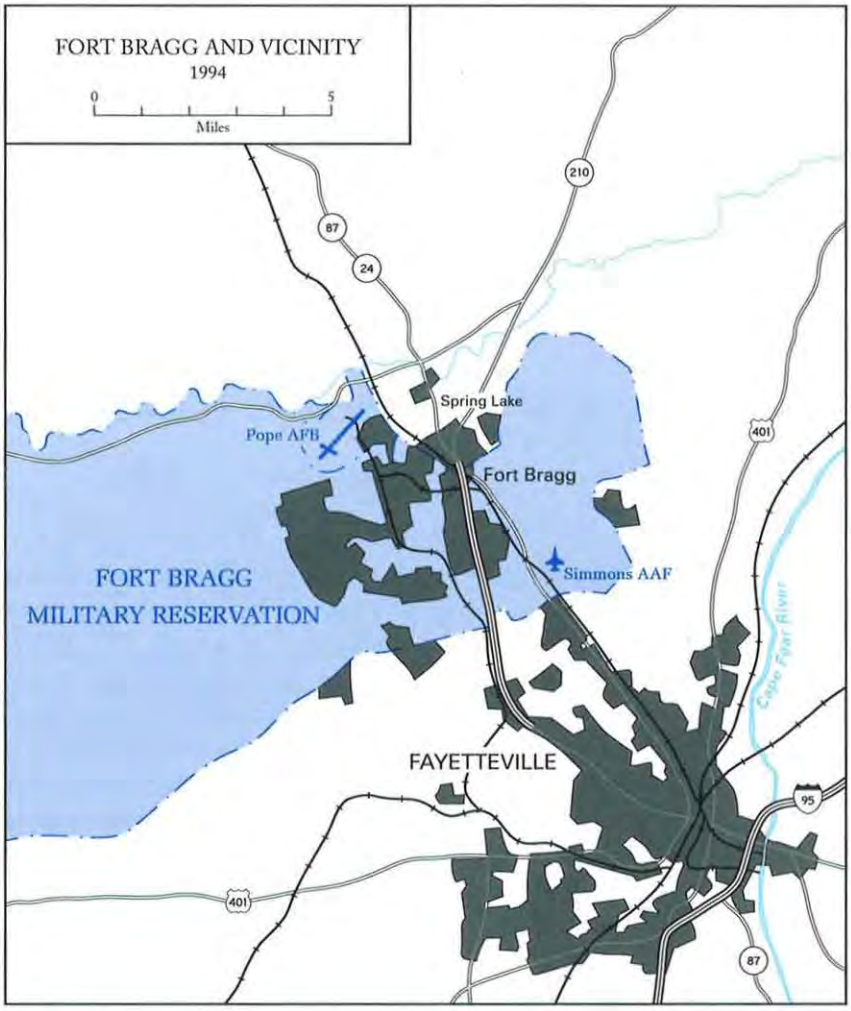
> "Those are my brothers. . . . They're in trouble and we need to help them."
>
> —*Capt. Daniel A. Godfrey*

The twenty-third of March 1994 was a fitting day for an airborne jump. The skies were clear, with good visibility; the temperature was in the mid-sixties; and the winds were moderate, 4 to 6 knots. The XVIII Airborne Corps, stationed at Fort Bragg near Fayetteville, North Carolina, had scheduled two parachute missions, one in the late afternoon and another in the evening, using aircraft on the adjacent Pope Air Force Base (*see Map*). Required to undergo pre-jump exercises within twenty-four hours of taking off, Army paratroopers had assembled at Pope Air Force Base for training in the early afternoon. Units on the day's manifest were the 82d Airborne Division's 504th Infantry, 505th Infantry, and 782d Support Battalion (Main), as well as the XVIII Airborne Corps' 525th Military Intelligence Brigade and 159th Aviation Group (Combat) (Airborne).

The paratroopers had gathered on the staging area known as Green Ramp,[1] located west of the southern end of Pope's main runway. Green Ramp contained the jumpmaster school buildings; the jumpers assem-

---

[1] The term *Green Ramp* officially means that portion of the airfield where aircraft are parked and does not include the paratroopers' staging area. Army users, however, traditionally refer to the pre-jump staging area—the portion beyond the official ramp and main runway, all the way to the fence on Rifle Range Road—as Green Ramp, which is the usage followed in the text. The chapter title is taken from Cameron Porter and Shannon Rasmussen, "The Heroes of Green Ramp," *Soldiers*, May 1994.



bly building, referred to as the "pax shed"; a series of CONEX containers; two Air Force buildings; trailers; a snack bar; and the jumpmaster school training area, where mock doors and C–130 and C–141 mock aircraft were located in a parallel line. The paratroopers used the mock-ups, each positioned on a 3-foot-high platform, for rehearsing aircraft exits, as well as the smaller platforms interspersed among the mock-ups for practicing parachute landing falls. A pair of C–141 Starlifters, aircraft not usually based at Pope but designated for Fort Bragg's airborne exercises, sat on the tarmac about 75 feet from the

mock doors. Vehicles lined the driveway near the pax shed and adjacent to the jumpmaster school.

Soldiers on Fire

The soldiers on Green Ramp were engaged in a variety of activities in preparation for the jump. About 1400 Capt. James B. Rich, the 525th Military Intelligence Brigade's S–4 (logistics officer) and a primary jumpmaster, had just finished rehearsing duties with the jumpmaster team in the mock aircraft. Cards in hand, he began to practice a briefing he was to give to the paratroopers at 1430. Another brigade officer, Capt. Daniel A. Godfrey, hastily spoke with Rich and then headed back toward the other members of his group located under the trees near the number 2 C–141 mock-up.[2]

A short distance away the 504th and 505th Infantry paratroopers readied themselves to practice jumps from the first set of mock doors. Many sat on the ground with their backs to the airfield, as they listened to the jumpmaster's review on static line injuries—"how to correctly exit and prevent getting the static line from the parachute wrapped about your arm," recalled Capt. M. Lee Walters of the 504th's 1st Battalion. Most had taken off their helmets and were wearing battle dress uniforms (BDU) and boots. The airborne troops wore no protective gear.[3]

From a small platform in front of the trailers, S. Sgt. Michael T. Kelley of the 2d Battalion, 505th Infantry, rehearsed parachute landing falls by repeatedly hopping off the platform. He waited to move to the pax shed to pick up his parachute.[4]

In the meantime, some paratroopers walked back from the pax shed, having put their chutes on. Others formed assembly lines in the area between the cargo shed and the nearby concrete platform, where the MACO (marshaling area control officer) brief is usually conducted before the final manifest call. After their names were called, the soldiers moved out to the chalk lines at the far end of the marshaling area.[5]

---

[2] Interv, Lt Col Iris J. West with Capts James B. Rich and Daniel A. Godfrey, 14 Apr 94 (hereafter cited as Rich and Godfrey Interv).

[3] Interv, Lt Col Iris J. West with Capt M. Lee Walters and Lt Stephanie Walters, 13 Apr 94 (hereafter cited as Walters Interv).

[4] Interv, Lt Col Iris J. West with S Sgt Michael T. Kelley and Mrs. Lisa Kelley, 25 May 94 (hereafter cited as Kelley Interv).

[5] Ibid.



Sequence of events in the crash. This aerial view was taken on 29 March, after the wreckage had been removed.

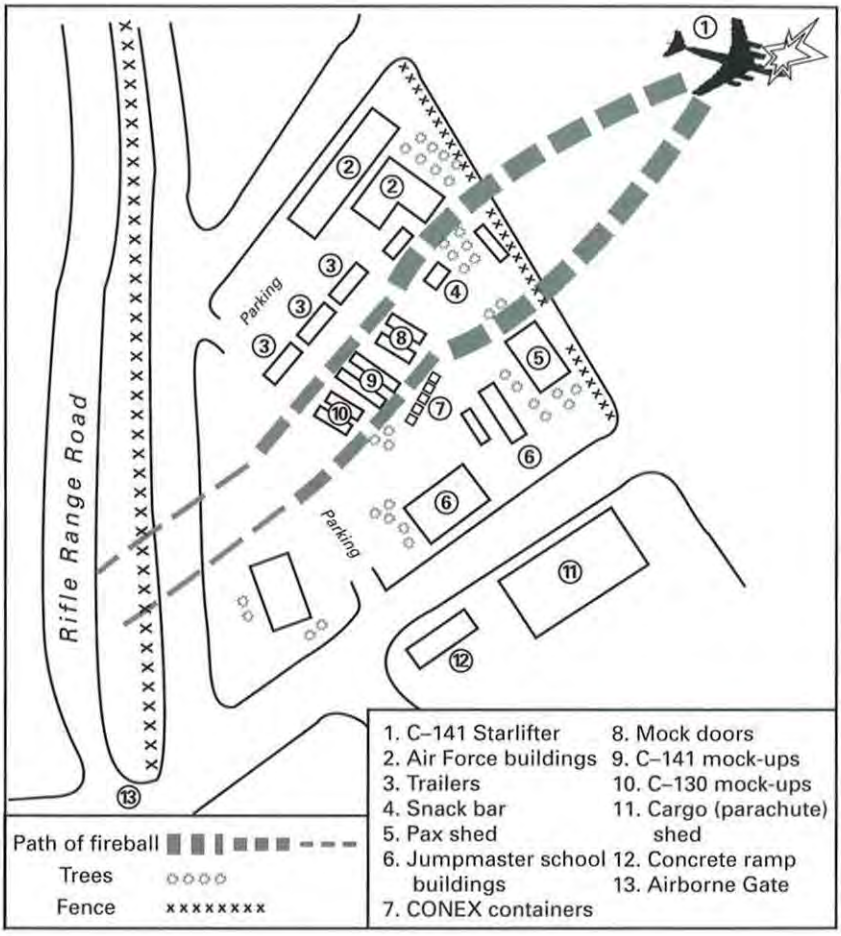
Close to 500 paratroopers were on Green Ramp that early afternoon. Many of them were crowded into a narrow corridor formed by the pax shed and the CONEX containers on one side and the snack bar and mock-ups on the other side. More soldiers attended airborne classes, held at the jumpmaster school.

Around 1410 an F–16D Fighting Falcon collided with a C–130 Hercules transport while both tried to land at Pope Air Force Base. The Hercules touched down safely. The F–16 pilots ejected as the fighter plummeted to the ground, ricocheting across the tarmac and sliding into one of the parked C–141 Starlifters. Both planes exploded in flames, hurling searing-hot metal through the air and spewing 55,000 gallons of fuel onto Green Ramp. The debris-filled fireball, "described by some as 75 feet in diameter," roared through the staging area where the paratroopers were preparing for airborne operations, stopping in the vicinity of the Airborne Gate on Rifle Range Road, which separated Fort Bragg from Pope Air Force Base (*Diagram 1*). The "rolling blaze" became "a swirling ball of death."[6]

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[6] Jodi Enda, "Tracking Death's Path Along a Sunny Runway," *Philadelphia Inquirer*, 27 Mar 94, p. 1.

DIAGRAM 1—GREEN RAMP STAGING AREA



Capt. Gerald K. Bebber, the 525th Military Intelligence Brigade chaplain, remembered that he had left the C–141 mock-up and was about 20 feet from the pax shed when he

> heard the high pitched screech of a jet fighter airplane at open throttle from beyond the pack shed [*sic*] suddenly give way to a deep reverberating thud and massive explosion. I recognized the sound from my experience in battle in Desert Storm. As soon as I could think this, a great roaring rush of fire entered my sight above and to the left of the pack shed. It was at tree-top level, slanting down as it gushed into the mock-up area at terrific speed. . . . The flame came though the tops of the trees

> that stood in a small open area beside the pack shed. In the torrent of flame I saw pieces of wreckage and machinery hurling along. As the torrent rushed in I could hear cries of alarm, curses, and someone yelling "run" from the mock-ups. The fire blast crackled as it blasted in, and at its sides it curled outward as it went forward. I was standing perhaps thirty feet beside the edge of the blast, and could see eddies of the flame curling out toward me. I turned and ran from the flame, to just beyond the right end of the pack shed, where . . . I no longer felt the intense heat, so I stopped. To my left, out on the aircraft ramp, now in my line of sight, I could see a parked C–141 engulfed in flames. It was the left one of a pair of C–141s parked there.[7]

Capt. Jonathan C. Gibbs III, the 159th Aviation Group chaplain, had been standing on the chalk line after manifest call when he saw the huge fireball "burst through the trees." He and many others ran toward the fence at the end of the marshaling area and dove behind the earth berm paralleling the fence. A few seconds after he "heard a loud 'whoosh' from the other side of the berm," he ran around the berm and saw a piece of fiery aircraft "the size of a volkswagen" on the chalk line where he had been standing. He saw flames and wreckage farther down along the mock-ups, but his view was blurred because of the smoke.[8]

Captain Rich, the jumpmaster, was standing about 5 feet from the first C–141 mock door, rehearsing his pre-jump briefing, when someone yelled, "It's gonna crash." He looked in the direction of the flight line and saw an orange glow, surrounded by "smudgy black smoke." Rich remembered:

> Despite hearing the word run, for some reason I determined that my only chance of survival lay not in running but finding something solid between myself and the oncoming fireball. . . . I think one of the compelling factors in my decision to dive behind the mock door was an overwhelming understanding that there was no way in hell I could outrun the oncoming debris. . . . I also remember . . . that whatever cover I found had to be within about 5 feet of where I was standing. The only thing I could find was the 12-inch high concrete slab that constituted the simulated floor of the C–141 mock-up directly to my front and in between me

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[7] Memo, Capt Gerald K. Bebber, Chaplain, 525th Military Intelligence Brigade, to Chaplain, XVIII Airborne Corps, 12 Apr 94, sub: After-Action Report, Green Ramp Catastrophe, 23 March 1994 (hereafter cited as Bebber Memo). The "pack shed" referred to in this memorandum is the pax shed.

[8] Memo, Capt Jonathan C. Gibbs III, Chaplain, 159th Aviation Group (Combat)(Airborne), to Chaplain, XVIII Airborne Corps and Fort Bragg, Fort Bragg, N.C., 28 Mar 94, sub: Witness Statement, Pope Air Force Base Green Ramp Accident, 23 March 1994 (hereafter cited as Gibbs Memo).

> and the oncoming fireball. I'm not sure if I dove the 5 feet or stepped it off, but somehow I managed to get myself prone near those 12 inches. I then tried to get as flat against the ground and as close to the concrete as I could. In fact, I would go so far as to admit that I had an overwhelming desire to burrow my way into the side of that slab.

During the ordeal Rich felt "fully exposed," believing he was going to die. He heard chunks of debris hitting the mock door and thought it sounded like "rain hitting a tin roof." He likened the sound to "heavy pipes clanging against each other, mixed with a handful of steel marbles thrown against a road sign." The sensation of the "intense heat of the fireball as it passed over . . . was like being in a microwave with the temperature getting hotter and hotter. . . . It also had that weird low-pitched roaring sound like that of a blow torch. . . . At any instant [Rich] expected to burst into flames." Actually the captain's backside was on fire.[9]

Captain Godfrey, who had been talking to Rich just before the explosion, was heading back toward his group under the trees when he heard "whoosh"; as he turned and looked, he saw "fire in the air and debris starting to fly." He took three strides and "got real small in behind" a tree. He was on all fours with his head ducked down, his arms under him and braced. He heard debris hitting the tree and explosions of 20-mm. chain gun rounds from the F–16.[10]

Sergeant Kelley was standing with his back toward the mock doors and the flight line when he heard a noise; as he turned, he saw the C–141 explode. He ran on an angle to the left of the explosion and something hit him in the back of the head. Realizing he could not outrun the fireball, he rolled on the ground. He remembered being taught "in nuclear training that you lay down and let the blast roll over top of you." He must have caught some fuel vapor, however, for when he stood up he was on fire. The flames rolled around from the back of him to the front. He dropped and rolled again. Then somebody came to help him. The rescuer crawled on top of Kelley and started hitting him with "a wrap of some kind," and another person started pouring water over him, and they called for a third person. "These people saved my life," recalled Kelley. The rescuers put him in the back of a truck and kept talking to him to keep him conscious. Kelley suffered burns on 70 percent of his body, including the area from his chin to his nose. He wor-

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[9] Rich and Godfrey Interv, 14 Apr 94.
[10] Ibid.

ried about his burned lips. He fell unconscious as he approached Womack Army Medical Center at Fort Bragg. The last thing he saw was the flagpole on the Womack lawn.[11]

Sgt. Jacob "Jake" T. Naeyaert, Jr., of the 2d Battalion, 505th Infantry, was walking back from the pax shed when the explosion occurred. He was at the level of the second mock door when he started running. He and a friend were trying to get behind the third mock door but did not make it. Something hit Naeyaert on the back of the head and threw him against the mock door; he fell unconscious. After the fireball had passed, he woke up but could not move. His ankle was broken, and his legs were on fire. Other soldiers, who had taken the Army's two-week combat lifesaving course, were there to jump and had their medical bags with them. They ran to Naeyaert, put the fires out on his legs, and gave him intravenous fluids to prevent shock. He went unconscious again. He woke up as soldiers were loading him onto a 2.5-ton truck for evacuation to the hospital. His friend was badly burned but still alive.[12]

Soldiers of the 2d Battalion, 504th Infantry, who were listening to the jumpmaster's review while sitting on the ground in front of the mock doors, stood up and scattered in several directions after the explosion. Some of them ran toward the jumpmaster school training area, where the CONEX containers offered protection; others bolted toward the snack bar and fence; and still others tried to race behind the mock doors. Some found safety. Most did not. Green Ramp was a confined area, with limited space for running. The soldiers who hit the ground and rolled fared better than the troopers who ran. Some were too slow, or tripped over equipment, or had no place to go. Those who escaped injury went to the aid of the less fortunate, who were usually on fire. Smoking tree branches and tree trunks and pieces of aircraft covered the 2/504th's mock-up, which had received the full blast of the fireball and debris.[13]

Sgt. Gregory Cowper of the 2d Battalion, 505th Infantry, started rolling when the fire caught up with him. "Ammunition was going off. I couldn't tell where it was. I looked to my left and there was a man on fire. I looked to my right and there was a man on fire." Cowper helped about five or six people before realizing that he had a broken leg.

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[11] Kelley Interv, 25 May 94.
[12] Interv, Lt Col Iris J. West with Sgt Jacob T. Naeyaert, Jr., 25 May 94.
[13] Walters Interv, 13 Apr 94; Bebber Memo, 12 Apr 94.

Someone helped him out the gate and into a high mobility multipurpose wheeled vehicle (HMMWV), referred to as a "Humvee" or "Hummer," for transportation to Womack. Cowper considered himself lucky.[14]

S. Sgt. Timothy J. Gavaghan of the 82d Airborne Division's Headquarters and Headquarters Company, 3d Brigade, had a similar story. He was sitting outside the jumpmaster school when he heard the explosion. As the fireball came toward him, he lay on the asphalt with his hands over his face. After feeling the intense heat pass over him, he got up and for the next twenty minutes "operated on auto pilot." He "dragged people to safety, patted out fires, carried litters, whatever was needed." His "training took over," Gavaghan said. The "mere process of repetition" kept him "going." Gavaghan was one of many heroes.[15]

Sgt. Waddington "Doc" Sanchez, a combat medic with the 2d Battalion, 505th Infantry, "was . . . one of the first to see the explosion come his way. . . ." He yelled for everyone to get down or out of the way. In taking time to warn others, he perished in the fireball's wake. "He gave the ultimate sacrifice, his own life," said Lt. Ronald D. Walker, Sanchez' medical platoon leader. The father of five had planned to make a career in the Army.[16]

Spc. Michael J. Fournier of the 2d Battalion, 504th Infantry, saved his life by lying on the ground inside the mock aircraft. After the fireball passed, he stood up and saw chaos: "medics running around taking care of soldiers, and people running around yelling for water to put the flames out on casualties." And this, he recalled, "happened within a matter of five or ten minutes." Throughout the ordeal Fournier heard the sounds of ammunition from the fighter aircraft exploding in the heat.[17]

Pfc. Michael P. Fletcher of the 2d Battalion, 504th Infantry, remembered that at the time of the explosion he was sitting on the ground about 20 feet from the first mock door with his back to the flight line. While listening to a safety review by the jumpmaster, Fletcher heard people screaming. He immediately jumped up and, with his back still to the flight line, started running to the left toward

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[14] As quoted in Pat Reese, "'A Huge Fireball Rolled at Us,'" *Fayetteville Observer-Times*, 24 Mar 94, p. 1A. See also p. 13A.

[15] "They Helped Victims When No One Else Could," *Fayetteville Observer-Times*, 26 Mar 94, p. 7A.

[16] As quoted in Marc Barnes, "'Doc' Was the Best He Could Be—and Proved It," *Fayetteville Observer-Times*, 29 Mar 94, p. 3B.

[17] Interv, Sgt Patricia Lewis with Spc Michael J. Fournier, 12 Apr 94.

the volleyball court between the pax shed and the jumpmaster school, only to trip and fall on his face. Within seconds the fireball passed over his head. He stood up and saw thick black smoke, soldiers on fire, and people racing toward the accident scene "from everywhere." He moved forward to help a burning soldier, and when they touched, Fletcher "just lit up." His BDU had been soaked with airplane fuel. While he hit the ground and rolled, others came to him and put the flames out. His rescuers moved him to the side of a nearby building and then asked him if he could sit in a Humvee, which had just arrived to transport casualties. Fully aware of what was going on, though suffering burns on over 35 percent of his body, Fletcher climbed into the vehicle for evacuation to Womack.[18]

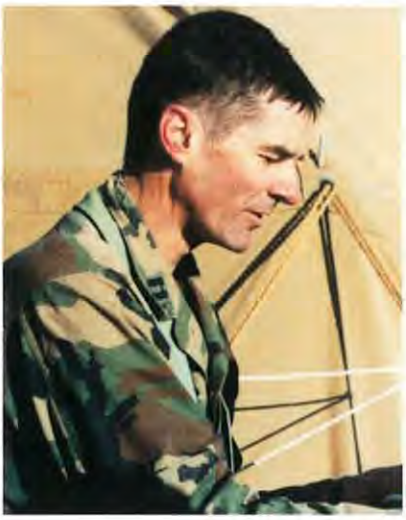
From his position just beyond the right end of the pax shed, Chaplain Bebber, having escaped the fireball, turned to face the training area and saw "a scene from hell." To his right side were two crushed food vendor trucks, one in flames. One of the vendors was on fire, and a soldier standing over him was trying to put out the flames. The row of mock-ups also was in flames, and burning debris and hot metal were everywhere. In an effort to return to his own unit's mock-up, Bebber moved 25 feet and came across his first victims, two soldiers on fire. While two other rescuers smothered the flames on one soldier, he took off his BDU top and knelt down beside the other casualty to extinguish the flames. But the soldier's uniform top was soaked with fuel, which kept reigniting the fire. Finally, Bebber shoveled sand and gravel from the path that ran along the mock-ups onto the soldier's back and successfully quenched the flames. He tried not to get sand on the soldier's left leg, which flying wreckage had virtually cut off. Bebber remembered hoping that the doctors could reattach the severed leg.[19]

All around the brigade chaplain "people were doing the same thing": rescuing soldiers, using their bare hands and canteens of water to "put out the last smoldering places." Meanwhile, ammunition exploded, and people shouted to get away. But no one paid attention. "It seemed irrelevant," Bebber said. Soldiers were responding the way they were trained to do in combat. Bebber became aware of the dead around

[18] Interv, Mary Ellen Condon-Rall with Sgt Christopher J. Burson, Sgt Jacob T. Naeyaert, Jr., and Spc Michael P. Fletcher, 2 Aug 95.

[19] The narrative on Chaplain Bebber in this and the following paragraph, to include all quotations, is based on the Bebber Memo, 12 Apr 94.

him. Some were badly burned; others were "horribly cut and torn"; a few had no apparent injury but were just dead. About 10 feet away one soldier was "already the death-color of gray," although someone was attempting to revive him with CPR (cardiopulmonary resuscitation). The Episcopal priest, who had entered the Army nine years before the tragedy, moved from group to group, speaking to the injured and helping to lift the wounded into the tactical and personal vehicles that began arriving to evacuate them to Womack. Other chaplains joined Bebber in praying and listening to the accounts of those who felt like talking.



Captain Bebber

The group chaplain, Captain Gibbs, had narrowly escaped death. He recalled staring in horror at the piece of fiery aircraft that had landed on the chalk line where he had been standing one minute before the explosion. After hearing ammunition go off in the vehicle park area, he ran around the back of the distressed cargo shed and into the training sector,[20] where he saw injured soldiers. One man, badly burned on his head, face, and hands, walked toward Gibbs screaming. The chaplain and two other rescuers poured water from canteens on the soldier and pulled off his smoldering BDU. Gibbs also helped move the injured to the guard shed, designated as a casualty evacuation center. He joined an Air Force chaplain in calming the wounded and preventing them from going into shock.[21]

S. Sgt. Daniel E. Price of the 2d Battalion, 505th Infantry, sacrificed his life to save a female soldier he had never met before. Spc. Estella Wingfield, an information systems operator with Headquarters and Headquarters Detachment, 525th Military Intelligence Brigade, remembered:

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[20] The distressed cargo shed is used to store damaged equipment.

[21] Gibbs Memo, 28 Mar 94.

> He looked me in the eye, grabbed me by the shirt, threw me several feet in the air and jumped on top of me. . . . An instant later, I heard the blast, felt the extreme heat from the explosion and the debris falling on us. . . . After the explosion and the rounds stopped going off, he whispered in my ear, "Crawl out from underneath me." I did and took off running.

Wingfield thought that Price was running behind her. When she realized he was not, she ran back to the spot where he had protected her from the explosion. He was dead. "He saved my life," she said.[22]

Captain Rich, who had taken refuge behind a mock door, knew his backside was on fire. It was the only part of his body sticking up over the concrete. Rolling on the ground to put the flames out, he noticed the fireball had gone. Near him was a man "burning like a human torch." Rich lunged at the soldier and knocked him to the ground. With his bare hands he tried to extinguish the flames, but the soldier's fuel-soaked clothing kept reigniting. "No matter how hard you patted you couldn't get the fire out." He ripped off the man's BDU and quenched the flames. A few feet away Rich helped another soldier put out spots of fire on the back of a female soldier lying on the ground. He decided to look for others who might need help. It was then that the sheer devastation on Green Ramp hit him:

> The number of wounded was almost overwhelming. Everywhere there were groups gathered around the injured trying to help them. Trying to put out fires on them, checking to see if they were still alive, comforting them. Others were running around in half panic, half dazed, looking for someone to help or something to do. Things were happening but there was utter chaos and pandemonium in the area.

Upon seeing a man on fire from head to toe, lying in the middle of the road trying to quench his own flames, Rich pulled off the man's fuel-drenched clothing and also tried to remove a hot metal belt buckle but burned his fingertips. He then used a penknife to remove the buckle, as well as to cut off the soldier's smoldering boots. The man was conscious and wanted to know how badly burned he was. Rich told him he was going to make it. A trooper from the airborne course helped Rich stabilize the soldier and to place a helmet under his head to make him more comfortable.[23]

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[22] As quoted in Porter and Rasmussen, "Heroes of Green Ramp," p. 4.

[23] The narrative on Captain Rich in this and the following two paragraphs, to include all quotations, is based on the Rich and Godfrey Interv, 14 Apr 94.

While the other rescuer stayed with the badly burned soldier, Rich walked through the carnage to check on others. He assisted in moving an unconscious man from a burning post in order to put his fires out. While the rescuers tried to revive the man with CPR, Rich shifted to another area to offer help. He saw an apparently strong soldier with a nearly severed leg, who was thrashing his limbs about. The captain helped others to hold down the man and tie the two leg pieces together to prevent further injury. Rescuers continued to struggle to control the injured man. When a Humvee arrived, they lifted the casualty onto a plywood stretcher and into the back of the vehicle. Rich was aware of live ammunition, while he was helping the wounded. But for him "it was not an issue. . . . It was not a concern." He focused on a 2-foot area. The only thing that mattered to him was the soldier he was standing over at the moment, or the rescuers he was helping. That was important. Combat training instilled a supportive attitude.

During the thirty minutes in which Rich was helping casualties, all of the severely injured were evacuated to Womack. As a symbolic gesture, he carried some "TA–50"—individual equipment–issued items, helmets, rucksacks—off the tarmac. He had suffered a gash in his ankle during the initial explosion and by now was limping. Rich and the other walking wounded climbed into a truck, which brought them to the hospital.

When Captain Godfrey looked up from behind the tree where he had sought protection, he saw a lot of people on fire. He helped a soldier extinguish the flames on his arm and then assisted an injured husband and wife team who were scheduled to jump that day. Lt. Kenneth Altfather, the 525th Military Intelligence Brigade's assistant S–3 (operations officer), had saved his wife's life by pushing her to the ground and placing himself on top of her when he saw the fireball approaching. Both were miraculously saved, though the legs of Altfather's wife, Sgt. Lorellei Houghton of the 519th Military Intelligence Battalion, kept burning because of her fuel-soaked uniform. After much effort, and with Godfrey's help, Altfather put out the flames on his wife and burned his hands in the process. The captain moved on from soldier to soldier after that. He burned his hands while knocking to the ground a soldier whose back and legs were on fire. Then Godfrey used his BDU top to extinguish the flames. He helped Captain Rich and other rescuers lift another injured soldier onto a makeshift plywood stretcher and into the back of a Humvee. He



Lieutenant Altfather and his wife Sergeant Houghton, recovering at Womack

climbed into the passenger side of the vehicle and, en route to the hospital, held the injured soldier's fractured leg immobile.[24]

Many people not involved in the accident had rushed onto Green Ramp to offer assistance. They included instructors from the jumpmaster school; medics from the Special Forces, who were in the jumpmaster school that day; members of Fort Bragg's 44th Medical Brigade, who were training nearby; and others who happened to be in the parking lot. The fireball never reached them, but they saw what happened and instinctively went to help.

To transport wounded to the Womack Army Medical Center on Fort Bragg, troops had commandeered all sorts of vehicles—trucks, Humvees, military vehicles, and privately owned cars belonging to jumpmaster school students. Instructors, students, Joint Special Operations Command medics, trained medical personnel from nonmedical units, and Air Force personnel, who either had witnessed the explosion or were nearby, tore up the jumpmaster school to make litters

[24] Ibid.

of plywood, doors, and metal strips for the victims. "If you could put someone on it, they used it," said T. Sgt. Ricardo A. Gonzales, an aeromedical technician with the 23d Medical Squadron. Rescuers then drove the casualties to the hospital.[25]

Spc. Brian Powell, an emergency medical technician, described the Humvees he saw taking injured soldiers to Womack under escort of military police: "The back of the hummer was full of bodies. . . . They were piled on top of each other and one of the guys was keeping them down, trying to keep them calm. They were black, covered with soot. Some were hurt really bad. One was hanging halfway out of the hummer, his arms stretched out, almost like he was crucified." All casualties who were still alive had been evacuated to Womack's main hospital within forty-five minutes of the accident.[26]

Firefighters

Contingency planning had made it possible for firefighters to respond effectively to the accident. When the alarm sounded, Pope Air Force Base firefighters were at the crash within two minutes and were battling fires within three. Fort Bragg and Cumberland County firefighters arrived at Pope's fire station within six to fifteen minutes. A new mutual aid program, devised by the military and civilian fire chiefs, helped the fire departments to respond quickly and competently. After the Pope dispatcher called the county dispatcher, requesting units from five specific fire departments and their equipment, the latter, "with the flick of a few switches, . . . sent out the five calls. It really cut down on the time the dispatcher needs to spend on the phone with us, which makes the whole process go faster," recalled Capt. Chris Dowless of the Cumberland County Emergency Operations Center. The Fort Bragg garrison also had the same type of plan with the county fire departments.[27]

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[25] As quoted in Kimberly N. Mason, "Medics Take Care of Wounded Soldiers," *Tiger Times* (Pope Air Force Base, N.C.), 1 Apr 94, p. 12. See also Walters Interv, 14 Apr 94; Interv, Col Mary T. Sarnecky with Capt James Mingus, 8 Apr 94. Mingus served in the 2d Battalion, 505th Infantry.

[26] As quoted in Michael Adams, "Debris Rips Paratroopers," *Fayetteville Observer-Times*, 26 Mar 94, p. 4A. See also Carol D. Leonnig, "Quick Warning, Training Saved Lives," *Charlotte Observer*, 25 Mar 94, p. 10A.

[27] Stephanie Banchero, "Plan Bought Precious Time for Fire Crews," *Charlotte Observer*, 25 Mar 94, p. 10A.



Fort Bragg and regional firefighters extinguishing flames on the C–141

Since military and civilian firefighters used similar appliances, the firemen could hook up to each other's systems and work together. Fort Bragg's Ladder 10 linked hoses with a fire truck from Spring Lake Fire Department; together they poured foam and water on the C–141 to keep its fuselage from igniting. Within twenty minutes the aircraft was under control. To prevent the second C–141 from catching on fire, maintenance crews rapidly towed the Starlifter about 300 yards away. Other fire engines put out spot fires on trees, the ground, rucksacks, equipment, debris, buildings, a food vendor truck, and even casualties. The combined efforts of five fire trucks succeeded in extinguishing the flames within fifty minutes of the crash.[28]

When the fires were out, the firefighters searched for the F–16's tank of hydrazine, a chemical used for emergency engine restarting, "because even a whiff of it [was] fatal." A small amount of hydrazine had leaked from the fighter's emergency power unit, which later was found near the center of the disaster site.[29]

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[28] Interv, Lt Col Iris J. West with Firefighters No. 1, Fort Bragg, 4 Apr 94.

[29] Memo, Col (USAF) Lawrence R. Whitehurst, MC, Cdr, 23d Medical Squadron, to Medical Readiness Committee, 23d Medical Squadron, and Cdr, 23d Wing, 31 Mar 94, sub: Medical After-Action Report for Aircraft Accident, 23 March 1994 (hereafter cited as Whitehurst Memo).

Rescue Teams

Contingency planning also helped medical rescue teams respond with alacrity. Within minutes of notification, medical rescue teams from Pope Air Force Base and from Fort Bragg reached the accident scene. Four ambulances from the 23d Medical Squadron, which supported the 23d Wing on Pope Air Force Base, answered the call from various locations. Three of the ambulances and crews were on the road and had witnessed the collision. One of those ambulances rescued the two F–16 pilots and took them to the Pope Air Force Base clinic. The 23d Medical Squadron's unit control center, activated because of the crash, sent a fifth ambulance, medicines, and supplies to Green Ramp. The 44th Medical Brigade, fortuitously training nearby, also arrived with ambulances within minutes. In response to a 911 alert, Womack Army Medical Center activated its disaster plan and sent ambulances to Green Ramp.[30]

Two UH–60 medevac helicopters had landed near Green Ramp as well. The aircraft belonged to the 57th Medical Company (Air Ambulance) of the 56th Medical Battalion (Evacuation), which was part of the 55th Medical Group of the 44th Medical Brigade. The "1st up" aircraft arrived at Pope Air Force Base at 1438, eight minutes after notification, and departed for Womack with two litter cases at 1448. The "2d up" aircraft touched down at 1440 but did not evacuate any casualties. Six other medevac helicopters, belonging to the 57th Medical Company, stood by at Womack and at nearby Simmons Army Airfield for transfer of casualties from Womack to other facilities.[31]

Just outside the Airborne Gate on Rifle Range Road, eight civilian ambulances from Cumberland, Moore, Hoke, and Harnett Counties stood by to move casualties, but all of the injured had been evacuated. Immediately after the explosion the security police secured the gate to keep vehicles from entering the area.[32]

Limited triage occurred at the crash site because of the fires and exploding ammunition (500 rounds of 20-mm. ammunition from the

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[30] Ibid.

[31] Interv, Lt Col Iris J. West with Crew Members, 57th Medical Company (Air Ambulance), 14 Apr 94 (hereafter cited as 57th Medical Co Interv); Memo, Col Stephen L. Jones, Dep Cdr for Clinical Services, WAMC, to U.S. Army Center of Military History, 3 Apr 95, sub: Medical Response to the F–16 Crash at Pope Air Force Base, 23 March 1994.

[32] 57th Medical Co Interv, 14 Apr 94.



Captain Rich

fighter), the numerous medical personnel and vehicles available for evacuation, and the quick transport of casualties to Womack nearby. Six burn patients were taken to the Pope Air Force Base clinic and later transported to Womack. The nine pronounced dead at the scene were placed in a temporary morgue in a small building near the crash site and then moved to the morgue at Womack.[33]

Reflections

Once the impact of the accident had sunk in, survivors reflected on their actions. Both Captains Rich and Godfrey believed that basic training in how to react to live artillery helped them to survive. Artillery drills taught them to "hit the ground and find cover. . . . Your best chance of survival lay in the first 12 inches of air from the ground up." Both dug themselves into the earth behind cover, and both survived. They were fortunate that protection was within a few feet of where they were standing.[34]

Military instruction also helped Rich and Godfrey to behave like heroes. Combat training taught them that a soldier's responsibility is to help other soldiers in time of need: "Those are my brothers, or however that feeling is; they're in trouble and we need to help them." Rich and Godfrey gained faith in their fellow soldiers that they would "not be left" and would "be taken care of." As a result, "a camaraderie . . . developed . . . an unspoken understanding."[35]

Capt. B. Keith Poole, the commander of Headquarters and Headquarters Detachment, 525th Military Intelligence Brigade, added: "It was a tough situation, but they were never overcome by it." Soldiers ran in to take care of injured comrades. They did not wait for someone to take charge. They did this on their own initiative. Poole echoed both

[33] Whitehurst Memo, 31 Mar 94.
[34] Rich and Godfrey Interv, 14 Apr 94.
[35] Ibid.

Rich's and Godfrey's belief that their military training had enabled them to save many soldiers' lives.[36]

Similarly, Spc. Gus Siettas of the 2d Battalion, 504th Infantry, said: "If this type of accident had occurred in a civilian airport, it's likely that people would not have known what to do. . . . Common Task Training, battle drills and conditioning definitely saved lives out there."[37]



Captain Godfrey

Spc. Gregory R. Norrid of the 1st Battalion, 58th Aviation, who ran back into the accident area after the explosion to help the injured, also attributed his actions to combat lifesaving and common task training that stressed splinting and control of bleeding. After putting out the flames on one soldier, he heard another cry for a tourniquet. Norrid picked up a piece of wood to apply pressure and, while tending to the soldier, took an ammunition round fragment in his left arm. He continued to aid the injured despite his own wound. "In this situation there were a lot of other people who did what I did," he said. "It shows us that training (such as common task, basic first aid and combat lifesaving) is there for a reason. People think it's mundane, repeating it year after year, but . . . the training kicks in and you just do what you hope another soldier would do for you."[38]

Lt. Gen. Henry H. Shelton, the commanding general of the XVIII Airborne Corps and Fort Bragg, praised the quick and impromptu response of the soldiers and rescue teams after the explosion. "When fear sets in, training takes over," Shelton said. "No one shied away. . . . It's that kind of phenomenal response that allowed us to get all the injured to the hospitals within 40 to 45 minutes."[39]

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[36] As quoted Porter and Rasmussen, "Heroes of Green Ramp," p. 5.

[37] As quoted in ibid.

[38] As quoted in Kent Kisselbrack,"Soldier's Medal: Army Specialist Honored for Heroism During Pope AFB Tragedy Last Year," *Korus Monthly*, May 1995, p. 10.

[39] As quoted in Leonnig, "Quick Warning," p. 10A.

One month before the accident the 2d Battalion, 504th Infantry, had to simulate evacuating dead and wounded during maneuvers at the Joint Readiness Training Center at Fort Polk, Louisiana. Lessons learned during those exercises helped the battalion to evacuate soldiers and account for fallen comrades on Green Ramp. "Most of the things . . . [at the crash site] were exactly what we had trained there," said Lt. Col. Stanley A. McChrystal, the battalion commander who had served with a special operations unit during the Gulf War. "We had to figure out who we had, and that's much harder than you think because of the confusion at the site."[40]

Proud of the heroes of Green Ramp, the commanding general of the 82d Airborne Division, Maj. Gen. William M. Steele, said:

> It was soldiers saving soldiers. Soldiers putting out fires on other soldiers; soldiers dragging soldiers out of fires; resuscitating; giving soldiers CPR; putting tourniquets on limbs that had been severed; putting out fires on their bodies, sometimes with their own hands. Anything they could do to care for their buddies that were more seriously injured they were doing. They can't do that without knowing how. They responded the way they would in combat.[41]

The immediate response to the disaster on Green Ramp produced numerous heroes, while demonstrating the benefits of readiness, training, and contingency planning. Combat lifesaving courses, common task training, and quick evacuation undoubtedly saved lives. Firefighters, ambulance crews, and medevac teams answered the alerts with professionalism and dispatch, reflecting, in most respects, well-planned schemes. The esprit de corps of the 82d Airborne Division, which had already been good, reached new heights of camaraderie and understanding because of the accident.

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[40] As quoted in Henry Cuningham, "Battalion Remains Ready To Fight Despite Crash Losses, Leader Says," *Fayetteville Observer-Times*, 31 Mar 94, p. 4A.

[41] Interv, Lt Col Iris J. West with Maj Gen William M. Steele, 20 Apr 94.



Womack Army Medical Center, Fort Bragg, North Carolina. On the day of the Green Ramp disaster Womack provided initial treatment to all of the accident victims, admitted fifty-five casualties, treated and released fifty-one, and transferred another thirteen to regional hospitals. The hospital became a hub of emergency operations and family assistance centers.

2

Initial Medical Response

> "Medics showed up from all different units. They heard what had happened, put on gloves and went to work."
>
> —*Margaret Tippy*

In response to the 911 alert of the accident at Pope Air Force Base Maj. C. Craig Corey, MC, the emergency medicine department chief at Womack, activated Code Yellow, the mass casualty (MASCAL) plan. Assuming the worst scenario, he called additional emergency room physicians, nurses, and medical technicians into the hospital. At the same time, a member of his staff alerted the hospital chaplains and the anesthesia, surgery, respiratory, radiology, and nursing departments. Each department activated its own MASCAL plan. Corey's staff then cleared the emergency room of patients not warranting immediate attention, made someone responsible for logging in the MASCAL patients, brought stretchers into the emergency room, and retrieved MASCAL carts from storage in the decontamination shower room. Corey was known as an excellent emergency room physician, capable of performing at high levels under stress. By 1425 the magnitude of the accident was apparent as the first group of casualties arrived in a potpourri of tactical and personal vehicles.[1]

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[1] Memo, Col Stephen L. Jones, Dep Cdr for Clinical Services, WAMC, to U.S. Army Center of Military History, 3 Apr 95, sub: Medical Response to the F–16 Crash at Pope Air Force Base, 23 March 1994 (hereafter cited as Jones Memo); Interv, Lt Col Iris J. West with Maj Patricia D. Horoho, 12 Apr 94 (hereafter cited as Horoho Interv). Horoho was Womack's emergency room chief nurse.



Major Corey (right) practicing emergency medicine at the 5th Surgical Hospital (Mobile Army) on Fort Bragg

Emergency Care

The first victims to enter the emergency room were two food vendors with minor burns. Corey steered them to the outpatient clinic. The next patient arrived on a plywood stretcher. He had a leg amputated and a tourniquet held in place by a crowbar. He was conscious and alert, and Corey directed him to the trauma area. Another soldier suffered burns on 100 percent of his body. Emergency room staff cared for him, while hospital administrators arranged for the victim's transfer to a regional burn facility.[2]

Outside the emergency room, vehicles with casualties on board arrived in great numbers. A 2.5-ton truck held as many as ten victims, thrown into the back in a "scoop and run method," one patient on top of another. A 5-ton truck and Humvees had injured soldiers "on backboards across the radio hump." Burns covered 80 to 90 percent of their bodies. Some had head injuries, bone fractures, and shrapnel wounds.[3]

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[2] Interv, Lt Col Iris J. West with Maj C. Craig Corey, 12 Apr 94 (hereafter cited as Corey Interv).

[3] Horoho Interv, 12 Apr 94.



Major Horoho

Maj. Patricia D. Horoho, the competent chief nurse of the emergency room, and other hospital staff ran out to meet the casualties. "We tried to reassure . . . [them] and asked them to hold on," recalled Horoho. Because the emergency room could not hold the great numbers of casualties, its staff, now augmented by anesthesia personnel, surgeons, nurses, family medicine physicians, pharmacists, and medics, began triaging in the driveway, a place designated in MASCAL strategy as a triage area. The sunny day and mild weather made it possible to examine the victims outside. Physicians pronounced dead two who had suffered cardiac arrest and escorted three who were ambulatory to the outpatient clinic. As medical personnel began treating the severely injured, Major Horoho remembered: "Right after about the third scream, this hush just kind of came across the whole area and people just were clicking and doing exactly what they needed to do." An Army requirement for two exercises each year of the MASCAL plan was paying off.[4]

The triage area spilled over into an oval of grass, about 80 feet by 150 feet, situated inside a horseshoe drive that ran up to and away from the emergency room. Within half an hour every inch of lawn was covered with injured soldiers from Pope Air Force Base. Casualties lay on plastic sheets, procured from the hospital, or on temporary litter stands. Sterile covers protected the burned paratroopers, who accounted for most of the victims. Medical staff applied saline solution to burns and gave intravenous (IV) fluids to prevent shock. Volunteer soldiers held sheets tied together to form a perimeter around the oval and protect the patients' privacy from the reporters, who had begun to gather across the street from the hospital. According to Margaret Tippy, Womack's public affairs officer, the

[4] Ibid.



Colonel Eggebroten

soldiers "were willing to stand there for hours on end if that's what they needed to do."[5]

Inside the hospital, patients filled the twenty-two emergency room beds. People lay on stretchers on the floor between the beds and on every space available in the waiting room and the hallway outside the emergency room.[6]

To coordinate the medical response, Col. William E. Eggebroten, MC, acting commander of Womack Army Medical Center at the time of the accident, but normally chief of the surgery department, established an emergency operations center (EOC) in the Emerson Room on the first floor of the hospital and directed activities until Col. Harold L. Timboe, MC, the commander, returned from temporary duty at Fort Sam Houston, San Antonio, Texas, late in the evening of the twenty-third. Colonel Eggebroten was the point of contact for the hospital and arranged help from regional medical facilities. He notified the Cape Fear Valley Medical Center, the Highsmith-Rainey Memorial Hospital, and the Veterans Administration Hospital, all in Fayetteville, of the crash. He also contacted the burn centers at the University of North Carolina in Chapel Hill and at Duke University Medical Center in Durham, as well as the Army burn unit colocated at Brooke Army Medical Center in San Antonio. Col. Jerry Palmer, MC, the commander of the 55th Medical Group, 44th Medical Brigade, worked at Womack with the hospital EOC to coordinate the support of other military medical units. Representatives of the 32d Medical Battalion (Logistical)(Forward) also maintained a communications cell in the same room. Colonel Eggebroten kept in touch with other operations

[5] As quoted in Shannon Rasmussen and Michele R. Hammonds, "Community Acts Bravely During Crisis at Pope," *Paraglide* (Fort Bragg, N.C.), 24 Mar 94, p. 1A. See also p. 3A.

[6] Corey Interv, 12 Apr 94.

centers established on base for the emergency.[7]

About 1445 Captain Rich walked into the hospital. "The bulk of the critically injured had arrived and flooded the emergency room," he remembered, while "medical personnel were running around everywhere." Considering his injuries to be minor, he helped to prepare IV solutions in anticipation of more casualties. After several medevac aircraft landed with no injured on board, he walked to the front of the hospital to have his foot examined. En route to the examining room, Rich telephoned his wife to let her know that he was all right. An X-ray revealed that his foot was not broken but was badly bruised. His boot had absorbed the bulk of the impact.[8]



General Timboe
(Rank as of 1 July 1995)

To care for the injured, Colonel Eggebroten had assigned each treatment team an emergency room physician, one or two nurses, two medical technicians, and sometimes a physician's assistant. According to MASCAL planning, "each team was responsible for resuscitating two patients, performing lifesaving procedures, starting two intravenous lines, inserting Foley [urinary] catheters, giving morphine . . . [and] antibiotics and dressing burns." Often team members had not worked together before or had never worked in an emergency room. But "all had done [the] basics like Foleys and IVs, and they were just told what basics needed to be done," said Major Corey. The timing of the accident, near the change of shift for Womack, meant that the hospital was double-staffed. Extra hands increased team energy, which the emergency room chief called "an incredible come together effort" that he doubted "could

[7] Jones Memo, 3 Apr 95; Interv, Lt Col Iris J. West with Col William E. Eggebroten and Lt Col George W. Weightman, 12 Apr 94 (hereafter cited as Eggebroten and Weightman Interv); Interv, Lt Col Iris J. West with Brig Gen James Peake, 21 Apr 94 (hereafter cited as Peake Interv).

[8] James B. Rich, "Memories," 29 Mar 94, an essay written on his recollections of the accident.

be reproduced." Eggebroten's Gulf War experience as commander of a combat support hospital, which cared for fifty to sixty casualties simultaneously, and his calm in the midst of chaos undoubtedly helped him to respond effectively to the Pope Air Force Base tragedy.[9]

Maj. Dawn Light, MC, a family practice physician, was asked to help triage victims on the lawn. She had taught the advanced trauma life support course for the Joint Readiness Training Command, but had never experienced a mass casualty. Light tried to sort the worst cases from the minor. She looked first for facial injuries and then for troubled breathing. She gave trauma casualties cervical collars to provide support and called on anesthesia specialists to manage airways. Because burns cause lung damage and throat injury, intubation became necessary on more than thirty patients. Most of the injured needed some form of burn care. Major Light was grateful that the accident had happened in the midafternoon, when there was plenty of daylight. She also was thankful for the many helpers who "made things easier." Light triaged about sixty patients, staying until all the casualties were stabilized and transported to the next level of care. She then went to the surgical intensive care unit and helped manage the most critical patients through the night.[10]

In response to the emergency "medics showed up from all different units," which greatly enhanced patient care. Margaret Tippy recalled: "They heard what had happened, put on gloves and went to work." Fort Bragg's 44th Medical Brigade, commanded by Brig. Gen. James Peake, MC, who was also the XVIII Airborne Corps surgeon, came out in full force, sending the staff of its on-site 28th Combat Support Hospital and 5th Surgical Hospital (Mobile Army) to help. Brigade and battalion surgeons of the 82d Airborne Division volunteered their services, as did the medical personnel of all troop medical clinics, which had closed down for the emergency. Special Forces medics, who were trained to operate independently in smaller operations, assisted treatment teams by starting central lines and intubating patients. Also treating casualties were medics from Fort Bragg's Joint Special Operations Command, located on Pope Air Force Base; those from Pope's surgeon's office; and those from Seymour Johnson Air Force Base hospital. Even Army nursing students took off their student tags and started helping. The teamwork was

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[9] First quotation from Jones Memo, 3 Apr 95, p. 2; remaining quotations from Corey Interv, 12 Apr 94.

[10] Interv, Lt Col Iris J. West with Maj Dawn Light, 21 Apr 94 (hereafter cited as Light Interv).

a testament to General Peake's One AMEDD (Army Medical Department) Team, consisting of field and Womack personnel who trained together, and his resource sharing committee, made up of representatives from all medical units on Fort Bragg and chaired by Col. Stephen L. Jones, MC, Womack's deputy commander for clinical services, which met monthly to discuss Fort Bragg's medical needs and assets. About 300 volunteers made their way to Womack to offer assistance.[11]



General Peake

"Everybody was doing what they're trained to do in a wartime situation," said Major Corey, "which is to be a resuscitative physician basically." The situation was chaotic. But it was controlled chaos. Major Horoho remembered:

> People just worked together and everybody saw the seriousness of it. It was probably the most wonderful feeling in the world . . . to know that people responded the way they needed to without ever having been told to. Nobody argued; nobody cared if someone ranked who; nobody cared what your MOS was or whatever. There wasn't a job too small or too little for everybody there.

However, key medical personnel were difficult to identify, and having them wear color-coded vests or hats to mark their position and specialty during the mass casualty would have helped.[12]

Teamwork notwithstanding, the absence of two-way radios in the triage or emergency room areas made communicating with other parts

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[11] Quotations as given in Rasmussen and Hammonds, "Community Acts Bravely," 24 Mar 94, p. 1A. See also Horoho Interv, 12 Apr 94; Interv, Lt Col Iris J. West with Maj Gen William M. Steele, 20 Apr 94; Peake Interv, 21 Apr 94; After-Action Review, XVIII Airborne Corps, 12 Apr 94, sub: Pope Air Force Base Crash, p. 16 (hereafter cited as XVIII Abn Corps AAR), which recommended that support from other Fort Bragg medical units be incorporated into MASCAL plans.

[12] First quotation from Corey Interv, 12 Apr 94; second quotation from Horoho Interv, 12 Apr 94. See also After-Action Review, Womack Army Medical Center, 29 Apr 94, p. 22 (hereafter cited as WAMC AAR).

of the hospital difficult. To offset this handicap, supervisors, including Colonel Eggebroten, Lt. Col. George W. Weightman, MC, the assistant deputy commander for clinical services, and Col. Linda Freeman, the nursing department chief, visited the emergency room often. EOC and pharmacy personnel were stationed in the emergency area as well. Emergency room staff relied on verbal contact to obtain supplies or to let the operating rooms or intensive care units know that patients were on the way to them. Later, an after-action report pointed out that a radio system compatible with air and ground ambulances used at Fort Bragg would have helped.[13]

Despite the lack of radios, supplies for the most part were plentiful and arrived within minutes of the initial request. The pharmacy also stationed teams in intensive care units, operating rooms, and wards. The teams "anticipated the requirements for medications, preparing them in advance so they would be immediately available." After Major Corey told the pharmacy that he needed a few items, morphine came "in a bucketful" and IV equipment and Foley catheters "by the truckload within 15 minutes." S. Sgt. Benjamin R. Waring, in charge of Troop Medical Clinic No. 9 of the 82d Airborne Division, backed his truck up to the "supply room and anything that was burn or trauma-related went into the back of the truck." Volunteers unloaded the trucks. As remembered by Major Corey, "Nobody said it is not my job.... Everyone pitched in.... We were just getting equipment left and right for what was going on. It was incredible."[14]

Nevertheless, "searching and finding" occurred for vital supplies, such as thoracotomy trays and debridement sets, which were not easily accessible or properly labeled. The availability of these supplies would have lessened the confusion in the emergency room, according to Maj. William H. H. Chapman III, MC, the highly competent chief of general surgery who oversaw triage in the emergency room. Medical logistics shifted approximately $37,000 worth of medical supplies from the warehouse to the hospital in response to the accident.[15]

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[13] Horoho Interv, 12 Apr 94; Eggebroten and Weightman Interv, 12 Apr 94; XVIII Abn Corps AAR, 12 Apr 94, p. 17.

[14] First quotation from Jones Memo, 3 Apr 95; second, third, and fifth quotations from Corey Interv, 12 Apr 94; fourth quotation as given in Margaret Tippy, "Sullivan Praises Womack Efforts," *Paraglide* (Fort Bragg, N.C.), 31 Mar 94, pp. 1A, 3A.

[15] Quotation from Memo, Maj William H. H. Chapman III, Chief, General Surgery Service, WAMC, to Dep Cdr for Clinical Services, WAMC, 4 Apr 94, sub: Pope Mass Casualty After-Action Review (hereafter cited as Chapman Memo). See also WAMC AAR, 29 Apr 94, p. 16; Peake Interv, 21 Apr 94.

The triage and emergency room areas were cleared of patients within two hours, a testament to teamwork in getting casualties admitted to the next level of care. During those two hours the hospital initially treated and admitted forty-five casualties; transported burned and traumatized patients to operating rooms; moved burned but not traumatized soldiers to intensive care units; sent moderately injured persons to Ward 6A, Ward 9A, and the ambulatory surgery unit; and triaged minimally injured patients to orthopedic, surgical, and outpatient clinics for treatment.[16]



Major Chapman

Triaging went well considering the numbers, but the large volume of patients slowed down the process of selecting people for air evacuation to burn centers or for retention at Womack for further stabilization. As a result, the departure of severely burned patients to the University of North Carolina's Jaycee Burn Center at Chapel Hill was delayed. This did not delay treatment, however, as each casualty was followed closely by a team of physicians, nurses, and medical technicians.[17]

Inpatient Care

Nonemergency room providers prepared to receive and treat casualties as well. In organizing the response to the accident, Colonel Eggebroten placed a physician in charge of each critical area—a surgeon became the ward doctor for each intensive care unit, the ward doctor for minor burns, and so forth. When numbers of general surgeons proved insufficient to staff all critical areas, he appointed nonsurgical physicians to assist. These doctors became points of contact for receiving information on the status of patients, bed space, nursing issues, and other concerns, which were normally the responsibility of the nursing

[16] Jones Memo, 3 Apr 95.
[17] Chapman Memo, 4 Apr 94.

department. Colonel Eggebroten assigned Major Chapman the task of selecting patients for surgery and coordinating the procedure with the operating rooms. He and another floating surgeon, the on-call general surgeon, Maj. Kim Marley, MC, oversaw resuscitations, intubations, surgical procedures, and movement of patients to the next level of care. Colonels Eggebroten, Weightman, and Freeman supervised the hospital's response by making rounds through the critical care areas. Colonel Freeman, who had served in Honduras and the Persian Gulf, provided a calming influence.[18]

After learning of the accident, Womack surgeons completed four ongoing operations within fifteen minutes and canceled scheduled operations not yet started. As a result, four operating tables were available by 1430, and all operating rooms were ready by 1500. At the time of the accident the 28th Combat Support Hospital was setting up in the parking lot next to Womack to provide overflow operating room space because Womack's operating rooms were being renovated. Hence, combat support hospital staff, who routinely rotated through Womack and knew the procedures, were available to assist in the operating rooms. Only a few casualties required immediate surgery, and they were quickly and easily handled. To manage all who would need surgery later, Major Chapman opened additional operating rooms on the labor and delivery wards. During the night and into the next morning surgeons performed thirty-eight procedures on sixteen patients in the operating rooms and more surgery on thirteen patients in the wards.[19]

Immediately after the declaration of Code Yellow, Womack's inpatient wards prepared to receive casualties as well. Ward staff discharged or transferred patients to make room for the accident victims. A heart patient was moved to the Duke University Medical Center. The surgical intensive care unit increased its bed capacity from four to eleven beds, and the medical intensive care unit prepared to receive eleven patients on ventilators and another ten in its stepdown unit, usually reserved for patients removed from medical intensive care. The ambulatory surgical unit became the recovery room. The staff organized Ward 6A to care for thirty burn patients and Ward 9A to treat another twenty. Maximum staffing (the result of a change in shift forty-five minutes before the accident), volunteer staff from other medical units, and borrowed equipment (monitors, pulse oximeters, and ventilators)

[18] Ibid.; Eggebroten and Weightman Interv, 12 Apr 94.
[19] Jones Memo, 3 Apr 95.



Burned hands with Silvadene

from the 44th Medical Brigade all made it possible to convert wards into temporary intensive care units.[20]

Intensive care units provided continuous reevaluation and additional care. Approximately forty casualties were intubated and placed on ventilators at some time during their treatment to assist breathing. Because twenty-eight patients needed ventilation simultaneously, the hospital obtained additional ventilators from the 28th Combat Support and 5th Surgical Hospitals. The staff gave all casualties IV fluids and medication. Most patients also received initial burn treatment, that is, applications of ice, saline, and Silvadene to burned areas, followed by escharotomy—"surgical incisions of circumferential burns required to restore blood flow to the involved limbs." Competent staff, with limited burn training, did an adequate job under difficult circumstances, reported Army burn teams later sent to Womack.[21]

Casualties were being triaged to intensive care units within ten minutes of the accident. Following his examination in the emergency room, Capt. James Mingus of the 2d Battalion, 505th Infantry, was

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[20] Ibid.; Chapman Memo, 4 Apr 94.

[21] Quotation from After-Action Report, U.S. Army Institute of Surgical Research, n.d., sub: Response to Pope AFB Accident, p. 4 (hereafter cited as USAISR AAR). See also Jones Memo, 3 Apr 95.

directed to the second floor intensive care unit. To treat his burns, the staff "cut away the dead skin and put the initial bandages on [his] hands and face and the back of [his] head." After receiving pain medication, he was assigned to a room on the ninth floor. Mingus remained there for two days before being moved to the sixth floor, where the hospital was consolidating the remaining patients not transferred to other hospitals.[22]

Other patients had similar experiences. Captain Walters remembered being escorted from the emergency room to the second floor intensive care unit, where the staff set his burned hands in a washbasin with saline and ice and placed some cold compacts on the back of his burned neck. He received pain medication and was admitted to the ninth floor ward. Later that night—around 2100—he had an escharotomy done on his left hand. He remained at Womack until 30 March, when he was transferred to the Army burn unit in San Antonio.[23]

Private Fletcher, who had been soaked with fuel oil and suffered burns over 35 percent of his body, was able to walk from the Humvee into the recovery room, from where he was sent to the second floor intensive care unit. He immediately received an IV and medication but soon fell unconscious. The staff moved him to Ward 9A, placed him on a ventilator, treated his injuries, and stabilized him for a flight the following day (24 March) to San Antonio.[24]

Sergeant Naeyaert remembered mass confusion at Womack, but fell unconscious immediately after receiving an IV. He was transferred to the Cape Fear Valley Medical Center, where his broken ankle was set and his ruptured spleen taken out to help heal internal injuries. Because of his burned hands and back, he was moved to the Jaycee Burn Center at Chapel Hill. He stayed there for five days, going in and out of consciousness, before being evacuated to the Army burn unit.[25]

By 2200 Womack Army Medical Center had provided initial management to all of the accident victims. The 9 killed at the site and the 2

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[22] Interv, Col Mary T. Sarnecky with Capt James Mingus, 8 Apr 94.

[23] Interv, Lt Col Iris J. West with Capt M. Lee Walters and Lt Stephanie Walters, 13 Apr 94.

[24] Interv, Mary Ellen Condon-Rall with Sgt Christopher J. Burson, Sgt Jacob T. Naeyaert, Jr., and Spc Michael P. Fletcher, 2 Aug 95.

[25] Interv, Lt Col Iris J. West with Sgt Jacob T. Naeyaert, Jr., 25 May 94.

who died en route to the hospital were taken to the morgue. The hospital treated and released 51 casualties, their follow-up care to be on an outpatient basis, and admitted 55—25 to intensive care units and 30 to inpatient wards. Another 13 casualties were transferred to regional hospitals—7 to the Jaycee Burn Center, 5 to Cape Fear Valley Medical Center, and 1 to Highsmith-Rainey Memorial Hospital. The Green Ramp disaster had produced 130 casualties.[26]

Hospital personnel realized that even their best efforts could not save some patients. At Womack one died about thirty minutes after the accident. Another death occurred at the hospital about twelve hours later. By 26 March the Green Ramp disaster had claimed 10 more lives, 5 at Womack and 5 at Jaycee, for a total of 23 dead. This total would increase to 24 ten months later (*see Appendix*), when the last victim passed away.[27]

Major Chapman, who wanted the best care possible for his patients, believed that the initial management of casualties could have been coordinated better. As in any MASCAL, patient overload caused "general chaos," and each ward chief had his own plan for dealing with casualties, making it initially "difficult to get everyone working from the same sheet of music." After a shaky start, however, patient management by physicians not trained in trauma or burn care "was excellent," declared Chapman. They generally paid attention to detail, performed necessary resuscitations, and changed plans after consultation with more experienced staff. Chapman suggested that for future emergencies a single person be placed in charge from the outset to implement the MASCAL plan with the department chiefs, who then would distribute the scheme to the staff within their wards.[28]

The Burn Teams

At the time of the accident a burn team from the Army burn unit, the U.S. Army Institute of Surgical Research (USAISR), was in North Carolina preparing to move a marine, injured in a gasoline explosion at Camp Lejeune, from the Jaycee Burn Center to the USAISR burn

[26] Jones Memo, 3 Apr 95; WAMC AAR, 29 Apr 94, pp. 2–4.

[27] Eggebroten and Weightman Interv, 12 Apr 94; WAMC AAR, 29 Apr 94, p. 4; Casualty List, 82d Airborne Division, 26 Mar 94. On the last victim, Spc. Martin R. Lumbert, Jr., see Chapter 5 of this volume.

[28] Chapman Memo, 4 Apr 94.

unit. A UH–60 medevac helicopter from the 57th Medical Company (Air Ambulance) flew up to Chapel Hill and brought back the four-member burn team, arriving at Womack at 1930 on 23 March. The general surgeon on the team joined the Womack surgeons as they evaluated and prepared the Green Ramp casualties for transfer to other facilities. A second USAISR burn team, with additional physicians, nurses, and respiratory therapists, arrived from Fort Sam Houston at 2315. This team brought the cardiac monitors, ventilators, IV infusion pumps, and other equipment needed to transport the casualties to San Antonio. Womack's commander, Colonel Timboe, who was at Fort Sam Houston when he learned of the accident, accompanied the burn team to Fort Bragg.[29]

Following a briefing by Colonel Timboe, the USAISR burn teams evaluated the fifty-five casualties admitted to Womack for the purpose of selecting the most severely injured for transportation on two separate aircraft to the USAISR burn unit. They eliminated those already transferred to the Jaycee Burn Center and those too unstable to survive aeromedical evacuation to San Antonio. The twenty soldiers selected had burns in the range of 6–88 percent of their total body surface; some had traumatic amputations and others inhalation injuries.[30]

Coordination of efforts could have been better. After arriving at Womack, the USAISR burn teams disregarded the Womack plan for triaging patients to burn centers and devised their own plan. The first burn team removed from evacuation helicopters patients whom the Womack staff had already prepared for transport to the Duke University Medical Center. The second burn team reevaluated and retriaged patients, rather than carry out the evacuation plan already developed. Although those actions resulted in delaying the transport of severely burned patients to burn centers, thus stressing the system at Womack and losing an aircraft to crew rest, the essential care of the casualties was not affected. Minor differences on the initial management of casualties included the amount and type of IV fluids administered to casualties; reliance on the Parkland formula, taught at most medical schools, by the Womack staff and the USAISR formula by the burn

[29] Jones Memo, 3 Apr 95; Memo, Maj Wayne W. Clark to Cdrs, 56th Medical Battalion, 55th Medical Group, 44th Medical Brigade, 28 Mar 94, sub: Evacuation of Soldiers From the Pope AFB Mishap, 23 March 1994; USAISR AAR, pp. 1–2.

[30] USAISR AAR, pp. 2–3; Emergency Operations Center Log, Womack Army Medical Center, 24 Mar 94, entry 30 (hereafter cited as WAMC EOC Log).

teams; the use of diuretics to prevent kidney damage; and the siting and depth of some escharotomies.[31]

The Womack staff later recommended that the USAISR burn unit develop a standard plan for the treatment of mass casualties at "facilities that do not take care of burns frequently." The distribution of this plan to military hospitals would provide for more standard management and efficient transfer of burn patients. A second recommendation called for a burn team member to remain behind to assist with the management of those too unstable to be transferred and those triaged to a later flight. The USAISR staff also proposed more standard management of burn patients, recommending that each military resident rotate through the institute "where principles of burn patient management adaptable to mass casualty situations are taught and practiced on a daily basis." Techniques emphasized would include evaluating burn areas and performing escharotomies.[32]

Mental Health

Consistent with mass casualty planning, psychologists, psychiatrists, clinical nurses, and social workers met in the expectant care area and physical therapy clinic to await patients in need of counseling. When no one arrived within one to two hours of the accident, these professionals focused on treating the emotional needs of families, hospital staff, and units involved in the disaster. Mental health personnel joined Army chaplains and family support group members in comforting the victims' families who had begun to gather in Womack's Weaver Conference Room. Psychiatric professionals also rotated through hospital wards supporting physicians, nurses, and other clinicians, many of whom had never seen injuries like those produced by the fireball. The 91C mental health technicians provided emotional support to the morgue personnel who had the difficult job of identifying and processing the remains of the deceased soldiers, many of whom were horribly burned or disfigured.[33]

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[31] Chapman Memo, 4 Apr 94; USAISR AAR, pp. 2–4.

[32] First quotation from Chapman Memo, 4 Apr 94; second quotation from USAISR AAR, p. 5.

[33] Jones Memo, 3 Apr 95; Interv, Lt Col Iris J. West with Lt Col John W. Plewes, Maj Steve Knorr, and Maj Michael L. Russell, 13 Apr 94 (hereafter cited as Plewes, Knorr, and Russell Interv). Plewes was Womack's psychiatry and neurology chief; Knorr, a psychiatrist with the 82d Airborne Division; and Russell, Womack's psychological services chief.

According to Army practice, mental health personnel form teams in response to any disaster or combat. They are drawn from combat stress control detachments and companies and from the neuropsychiatric wards and consultation services of both active and reserve components. Fort Bragg's mental health professionals organized into teams to handle the mass casualty on Green Ramp. Army psychiatrists later promoted the idea that psychiatric teams be designated in advance.[34]

Lt. Col. John W. Plewes, MC, Womack's psychiatry and neurology department chief and the 44th Medical Brigade's staff psychiatrist, organized the mental health effort. Because soldiers with burns to their heads or faces "inevitably will suffer emotional or psychological trauma," Plewes summoned psychiatric specialists from the 82d Airborne Division, the XVIII Airborne Corps, and Womack itself to plan critical incident stress debriefings for the purpose of minimizing posttraumatic stress syndrome among airborne units, the hospital staff, and the patients. For "anyone involved in this accident, their lives have significantly changed." At a businesslike meeting, which began about 2100 on the night of the accident, division, corps, and Womack personnel divided up the work load and shared resources. The 82d Airborne Division became responsible for debriefing its own units, which suffered most of the casualties; the 528th Medical Detachment (Combat Stress), 44th Medical Brigade, was to take care of corps units involved in the accident; and Womack mental health specialists were to handle patients and staff, many of whom had friends hurt in the accident, and to perform outreach programs for the community. Mental health workers were to form teams and be ready to augment each other's staffs during critical incident stress debriefings. The first debriefings were scheduled for twenty-four hours after the accident.[35]

Evacuation

When numbers of mass casualties proved too large for Womack to handle, MASCAL strategy called for the transfer of patients to region-

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[34] Franklin D. Jones, Pinchas Harris, Ronald J. Koshes, and Yeng Hoi Fong, "Military Psychiatry and Disasters," in Russ Zajtchuk, ed., *Military Psychiatry: Preparing in Peace for War* (Washington, D.C.: Office of the Surgeon General, Department of the Army, 1994), pp. 239–49.

[35] As quoted in Ruth Sheehan, "Many Crash Survivors Suffer Severe, Life-Threatening Burns," *News & Observer* (Raleigh, N.C.), 25 Mar 94, p. 16A. See also Plewes, Knorr, and Russell Interv, 13 Apr 94.



Rushing a casualty from a helicopter to the Jaycee Burn Center

al hospitals. After Code Yellow was activated, Colonel Eggebroten contacted local medical facilities to determine the number of casualties the local hospitals could take. He then coordinated the transfer of casualties to those hospitals through the 55th Medical Group, 44th Medical Brigade, and the hospital EOC. Medical authorities accomplished the major portion of the transfers to regional hospitals within two hours of the accident.[36]

In the grassy area outside the emergency room, a sheet marked AIREVAC designated the place where patients were being readied for transfer by helicopter to regional hospitals. The 57th Medical Company, which was on a field exercise nearby when the accident occurred, had five helicopters on the pad at Womack and three at nearby Simmons Army Airfield "ready to go." Major Corey arranged for four UH–60s to take seven soldiers who required immediate burn treatment to the Jaycee Burn Center at Chapel Hill; a physician and a respiratory therapist accompanied each patient. At 2330 a helicopter transferred a sol-

[36] Jones Memo, 3 Apr 95.



23d Medical Squadron personnel transferring a casualty to the medevac aircraft for the flight to San Antonio

dier with an open spinal wound to the Naval Medical Center, Portsmouth, Virginia.[37]

Womack ambulances carried five patients who required surgery to the Cape Fear Valley Medical Center and one to the Highsmith-Rainey Memorial Hospital, because the hospital operating rooms were full. Although a hotline between the emergency rooms of the regional hospitals and Womack would have eased communications problems during the initial response to the crash, the transfers, in general, went smoothly, largely because Womack rehearsed mass casualty planning with the regional hospitals several times a year.[38]

At 0400 on 24 March the Womack staff began the careful process of loading the burned patients on field ambulances of the 261st

[37] Quotation from Horoho Interv, 12 Apr 94. See also Jones Memo, 3 Apr 95.

[38] Horoho Interv, 12 Apr 94; Eggebroten and Weightman Interv, 12 Apr 94; XVIII Abn Corps AAR, 12 Apr 94, p. 15.

Medical Battalion (Area Support) for transportation to Pope Air Force Base. The first medevac C–9 Nightingale, with eleven of the twenty on board, departed the air base at 0720 for San Antonio. About 1000 the other nine left Womack for the air base, departing on the second C–9 at 1250. The 23d Medical Squadron from Pope Air Force Base provided many of the personnel used to load the two groups onto the aircraft, and its unit control center coordinated the evacuation with Womack and with Scott Air Force Base, in Belleville, Illinois, which provided the medevac aircraft and crew. With the transfer of three more critically burned patients to the Jaycee Burn Center that afternoon, the Womack staff could concentrate its efforts on the remaining casualties.[39]

Mortuary Affairs

On the day of the accident, as families were descending on Fort Bragg, a decision was made to identify the dead soldiers at Womack and not send them to Dover Air Force Base in Delaware, where verification of deceased military personnel often takes place after mass casualty incidents. Members of the Armed Forces Institute of Pathology (AFIP), in Washington, D.C., traveled to Fort Bragg and took charge of the identification process. They worked with personnel from Womack's pathology department and dental activity (DENTAC), as well as from Fort Bragg's Office of the Adjutant General. Again, teamwork helped in the medical response.[40]

The identification process involved a comparison of antemortem dental records with postmortem dental records, techniques that dental residents learned in the AFIP forensic dentistry course, conducted at Fort Bragg once every two years. According to Col. Gary W. Allen, DC, Fort Bragg's dental activity chief, the DENTAC team took radiographs and did a dental charting to discover "identifying features, either morphologic . . . or manmade . . . , such as a filling or some type of treatment or prosthesis." The team did not release a body to the medical

[39] Memo, Col (USAF) Lawrence R. Whitehurst, MC, Cdr, 23d Medical Squadron, to Medical Readiness Committee, 23d Medical Squadron, and Cdr, 23d Wing, 31 Mar 94, sub: Medical After-Action Report for Aircraft Accident, 23 March 1994; WAMC EOC Log, 24 Mar 94, entries 48–56.

[40] Interv, Lt Col Iris J. West with Col Gary W. Allen and Lt Col Esther Childers, 15 Apr 94. Allen was Fort Bragg's dental activity chief and Childers an oral pathologist.

examiner until it was sure the X-rays turned out accurately. The civilians and enlisted soldiers, who assisted the dentists in the mass casualty, had not taken the AFIP course and were unfamiliar with some of the procedures. This lack of knowledge, as well as the limited space in the hospital morgue, lengthened the identification process. The team finished the last body about 1430 on 27 March.[41]

Based on this experience, Colonel Allen hoped that enlisted soldiers would be required to take the AFIP forensic dentistry course in the future. General Peake believed that a "more clearly written SOP [standard operating procedure] to know what has to be done . . . [to] move on it quickly" would have helped execute the tough job of casualty identification.[42]

While terrible misfortune sometimes just happens, a professional response to crisis is no accident. Training, hard work, esprit, and dedication—the everyday routine of soldiers—pay off in emergencies. Such was the case at Fort Bragg, where Womack medical personnel, with the help of volunteers, triaged the Green Ramp casualties, gave them life-supporting treatment, and advanced them to the next level of care within two hours. The timing of the accident, coming at a change in hospital shifts, allowed for maximum staffing, and the presence of other medical units on post provided additional people and equipment. Womack's Colonel Timboe believed that the experience gained by his medics in Panama, the Persian Gulf, Honduras, and Somalia as well as the training received at Womack's December 1993 mass casualty seminar—when department chiefs discussed responsibilities and preparations for the upcoming Haiti contingency operation—enabled the hospital to respond with confidence to the disaster. Colonel Weightman, who agreed with Timboe, also credited the usefulness of the advanced trauma life support and combat casualty care courses, taught at Fort Sam Houston, and recent mass casualty exercises in Honduras and at Fort Bragg. Teamwork was possible because the 44th Medical Brigade

[41] Ibid. Twenty-one out of the twenty-three soldiers killed had DNA collection records, which made identification certain. However, it was easy to see how body parts and ambiguous dental detail could cause misidentification or failure to identify. The XVIII Airborne Corps subsequently recommended that commanders stress the DNA collection program. See XVIII Abn Corps AAR, 12 Apr 94, p. 26.

[42] Peake Interv, 21 Apr 94.

"had built up the links" that ensured an organized and efficient response. As stated by General Peake, "It's one Army Medical Department, not multiple chunks that never talk."[43]

[43] Quotations from ibid. See also Interv, Mary Ellen Condon-Rall with Brig Gen Harold L. Timboe, 3 Aug 95.



Pam Steele (right) and Jane Marcello at the 82d Airborne Division Family Resource Center. The division commander's and chief of staff's spouses led the family support group, a nucleus of military wives who came together at Womack's Weaver Conference Room to assist families during the crisis. The group worked in partnership with civilian relief agencies.

3

Military and Civil Response

> "Everyone got involved and pitched in. No one shied away."
>
> —*Lt. Gen. Henry H. Shelton*

While medical personnel responded to the Green Ramp disaster, Fort Bragg's military and civilian community provided leadership and essential services. Individuals tracked casualties, communicating timely information about them; they assisted both the victims and their families, tending to their physical, emotional, and financial needs, as well as promoting spiritual healing; and they performed public affairs functions, coordinating with the news media and preparing news releases.

Command and Control

After hearing of the crash, Fort Bragg's corps, division, and installation commanders used the procedures and techniques of a combat system, the emergency operations center (EOC), to respond to the crisis. Accustomed to executing missions on short notice, the XVIII Airborne Corps' G–3 (operations officer) immediately activated the corps EOC at corps headquarters and sent a liaison to the operations center at Pope Air Force Base and that at Womack Army Medical Center. The 82d Airborne Division established the division EOC at Womack and the Fort Bragg garrison the installation EOC at garrison headquarters. The next day, 24 March, the corps EOC passed control to the installation EOC, which functioned until the twenty-ninth, as the installation commander ultimately had overall responsi-

bility for Fort Bragg's response. The division EOC, however, remained active for several weeks since most casualties were from the 82d.[1]

Based on guidance from General Steele, the division commander, Col. John J. Marcello, the chief of staff, set up the division EOC in Womack's Patient Administration Division (PAD). The G–1 (personnel officer), Lt. Col. Randy Stansfield, manned the EOC with G–3 people. They built a data base on all the casualties and became the central point of contact for soldiers in the hospital and for family support. Colonel Jones, Womack's deputy commander, believed that the presence of division and corps representatives at the hospital helped in the tracking of casualties.[2]

The division EOC had to provide the commander with critical information "just as you do in war," Marcello recalled. Important data included the status and changes in status of every soldier. "We were trying to get a grasp on what was happening to our soldiers," General Steele said. By 1600 the 82d Airborne Division also had established a tactical EOC on Green Ramp to help verify the names of all the casualties, their status, and their evacuation destination. Because the crash produced many victims simultaneously, some were tagged inappropriately. Womack's chief of surgery, Colonel Eggebroten, recalled: "We spent a long time in the afternoon and evening trying to figure out who we had and the numbers of patients that we had. We probably need to put more PAD people in our MASCAL plan." The division found it easier to track down the casualties in units that had accurate jump manifests. By midnight the division EOC had uncovered the names and status of all the soldiers injured in the crash. In coordination with Womack PAD personnel, the 82d discovered that its 1st and 3d Brigades and Division Support Command were involved in the accident. Most of the casualties, however, were in the 2d Battalion, 504th Infantry, and the 2d Battalion, 505th Infantry. Other injured soldiers belonged to corps units, such as the 525th Military Intelligence Brigade.[3]

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[1] After-Action Review, XVIII Airborne Corps, 12 Apr 94, sub: Pope Air Force Base Crash, p. 2 (hereafter cited as XVIII Abn Corps AAR).

[2] Interv, Lt Col Iris J. West with Maj Gen William M. Steele, 20 Apr 94 (hereafter cited as W. Steele Interv); Interv, Maj Christopher G. Clark with Col John J. Marcello, 11 Apr 94 (hereafter cited as Marcello Interv); Interv, Lt Col Iris J. West with Lt Col Randy Stansfield, 12 Apr 94 (hereafter cited as Stansfield Interv).

[3] First quotation from Marcello Interv, 11 Apr 94; second quotation from W. Steele Interv, 20 Apr 94; third quotation from Interv, Lt Col Iris J. West with Col William E.

To check on the status of patients and to provide family support, the division EOC created communications outposts at each regional hospital. Portable tactical satellite terminals, FM radios, and cellular telephones were used to communicate with the detailed liaison officer on duty at the nurses station of each hospital's intensive care unit. Each casualty's family was assisted by another division representative, who met the family at the airport, arranged for transportation, and helped in any way. The EOC also used a contracting officer to reserve lodging at local hotels for families who did not stay on post. Finally, the 82d Airborne Division sent a liaison team to Fort Sam Houston in San Antonio to check on the severely burned casualties transferred to the U.S. Army Institute of Surgical Research (USAISR), colocated at Brooke Army Medical Center, and to take care of their families' needs. By this time "the families were starting to roll in," recalled General Steele.[4]

General Steele was known as a compassionate and caring commander, possessing a strong moral character. He and his subordinate, Command Sgt. Maj. Steven R. Slocum, saw what needed to be done for the soldiers and did not hesitate to make it happen. Other casualties, not from the 82d Airborne Division, benefited from Steele's and Slocum's determination to do everything that possibly could be done to help the accident victims and their families. According to Steele, Slocum "did yeoman's work" in the aftermath of the tragedy.[5]

Because of the accident General Steele required that officers and noncommissioned officers from the 82d's 1st and 3d Brigades receive casualty assistance training. Col. John P. Abizaid, the commander of the 1st Brigade, and Col. John Schmader, the commander of the 3d Brigade, were on the casualty notification teams and usually informed the families of their loss. Within twenty-four hours of the crash the teams had tracked down and apprised the family or friends of each soldier who had perished (*see Appendix*). Steele believed that the immediate training of casualty assistance officers "enabled them to notify quickly the ones who lost loved ones and ease the anxieties of wives and family members."[6]

Eggebroten and Lt Col George W. Weightman, 12 Apr 94 (hereafter cited as Eggebroten and Weightman Interv). See also Stansfield Interv, 12 Apr 94.

[4] Quotation from W. Steele Interv, 20 Apr 94. See also Marcello Interv, 11 Apr 94.

[5] W. Steele Interv, 20 Apr 94.

[6] Quotation from ibid. See also Marcello Interv, 11 Apr 94; Stansfield Interv, 12 Apr 94.

In addition to notification, the casualty assistance officers discussed survivor needs and benefits with the victims' families. They arranged for medical evaluation boards to provide early retirement for the soldiers who were near death in order to increase their dependents' benefits; the widow would receive the retirement and the child the death indemnity compensation, about $750 a month. The division EOC had to ascertain who was married, who had children, who was critically injured, and who should be processed first among the casualties. Because of this effort, only one soldier with children died before the division was able to retire him early. "Retiring people was a focused effort, day and night," recalled Colonel Stansfield, who coordinated the work with the XVIII Airborne Corps casualty assistance personnel. General Steele recalled that "Corps, Department of the Army, all of them just opened the door and said: 'Call. We have the board ready; we can do this procedure in a matter of minutes.' Things that would take a year when it's not a crisis were happening in a matter of minutes over the phone." Later, the corps recommended clarification of Army policy to allow posthumous medical retirement for all casualties.[7]

"To lend some form to the process," the 82d Airborne Division created a crisis action committee. The committee functioned like the Targeting Board, which synchronized the division's wartime activities. Representatives of the groups involved in the response—division, corps, the Red Cross chapter, military wives, family support, Army Emergency Relief, and public affairs—served on the committee, which held its first meeting on the afternoon of the twenty-fourth "to get everybody together," then twice a day for about a week, and every twenty-four hours thereafter. "That first meeting went for several hours," General Steele remembered. "We were trying to work our way through all the issues and how we should solve them."[8]

The first meeting produced a crisis action plan, in which taskings and responsibilities were defined. The committee tasked the 82d Airborne Division to arrange for Air Force transportation of the accident victims' families and friends; ensure financial support for family members; organize funerals; prepare a memorandum of information with details on the memorial service; activate a division hub at Fort Sam

[7] First quotation from Stansfield Interv, 12 Apr 94; second quotation from W. Steele Interv, 20 Apr 94. See also XVIII Abn Corps AAR, 12 Apr 94, p. 14.

[8] First quotation from Marcello Interv, 11 Apr 94; remaining quotations from W. Steele Interv, 12 Apr 94.

Houston, to include dedicated telephone lines; organize support at the Naval Medical Center, Portsmouth, Virginia; coordinate equipment accountability; improve information flow to and from the family support group; coordinate press coverage; and request community assistance, such as food for hospitals. General Steele told Colonel Marcello that he considered the work of the crisis action committee to be "one of the major lessons we learned from the whole process."[9]

As chief of staff, Colonel Marcello used the redline message system to send subordinate headquarters current information about the accident, such as up-to-date casualty lists, hospital visiting hours, data about the memorial service, and so forth. Jane Marcello and Pam Steele, in heading the family support group, received the messages and informed the brigade, battalion, and company commanders' wives; the latter, in turn, called more wives in the telephone organization. Within a short time the distaff side of the division was receiving accurate information on a timely basis. General Steele believed that the redline system enabled people to receive information privately, without having to request it, and helped to quell rumors.[10]

Thinking about unit performance, Colonel Stansfield credited the recent Warfighter exercise, in which commanders and their staffs had learned about crisis handling, including mass casualties, with helping the division to respond effectively to the disaster. "For a while, it was almost surrealistic," he said; "it was almost like we are just doing Warfighter," which had ended the second week of March 1994. "So we were ready. . . . If this had happened . . . nine months ago . . . things would not have gone so well," thought Stansfield. He surmised, however, that if he had to respond again to a similar situation, he would try to retrieve more quickly the corps' personnel records because they were critical for processing retirements.[11]

At the battalion level, command and control of the accident's aftermath rested squarely on the shoulders of the unit commanders—Lt. Col. Lloyd Austin of the 2d Battalion, 505th Infantry, and Colonel McChrystal of the 2d Battalion, 504th Infantry. For McChrystal, "the

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[9] Memo, Col John J. Marcello, Chief of Staff, 82d Airborne Division, to Crisis Action Committee, 24 Mar 94, sub: Action Plan for 82d Airborne Division Crisis Response.

[10] W. Steele Interv, 20 Apr 94. The redline message system involves information printed on red-bordered paper, used for visual impact.

[11] Stansfield Interv, 12 Apr 94. The Warfighter series is part of Fort Leavenworth's battle command training program.



Colonel McChrystal, shown as commander of the 2d Battalion, 75th Ranger Regiment

accident was an organizational management challenge." He established the battalion EOC at battalion headquarters under the command sergeant major and the S–3 (operations officer). He also set up a small command post at Womack and, for three hours on the twenty-third, on the airfield. The battalion EOC did its own casualty accountability, hospital liaison, and family support, coordinating all with the division EOC. McChrystal ordered the two units on training to return to Fort Bragg, prohibited early dissemination of information about casualties, and tried to bring the wives of his injured paratroopers into the company areas to ensure that they received the care and support they required. He stayed at the hospital command post until 0500 on the twenty-fourth, creating master lists of tasks and the people to perform them. He sent soldiers from each company to Womack to serve "almost as reaction type guys," to take care of "the thousand little things that would come up." He appointed liaison people to be with the families of casualties, whether dead or alive, and soldiers to participate in the next-of-kin notification process. He coordinated everything with corps, division, and brigade personnel and "got tremendous support from them."[12]

Although the various emergency operations centers were central to the military and civil response, confusion and duplication of effort, not unusual after a disaster, were apparent. Several after-action reports recommended consolidation and streamlining of functions. The XVIII Airborne Corps suggested that its adjutant general's office, working in conjunction with Womack's Patient Administration Division, "be the official voice of patient tracking for dissemination to command group, units, and PAO [public affairs office]," since patient tracking was a medical and adjutant general mission. The 16th Military Police

[12] Interv, Lt Col Iris J. West with Lt Col Stanley A. McChrystal, 22 Apr 94 (hereafter cited as S. McChrystal Interv).

Brigade (Airborne) complained that its military police (MP) details to multiple operations centers—the corps EOC, the installation EOC, and the division's tactical EOC—had left the unit understaffed and "confused," and thus proposed having only one operations center in future mass casualty situations. The installation EOC reported that because the corps EOC was functioning simultaneously, "confusion" resulted about where the incoming reports were to go. The installation commander recommended formalizing the installation EOC and establishing "lines of responsibility" for each. Only one center could be the lead or operational EOC in handling the specific crisis. In fact, the corps believed that a generic response plan that defined responsibilities would have improved coordination of activities during the mass casualty. Perhaps, however, some confusion and duplication of effort were inevitable on a post whose organizations were structured and whose personnel were trained to respond to multiple contingencies, rather than to specific situations.[13]

Family Support

The Weaver Conference Room on the second floor of Womack became a center for family support. Here hospital social workers, psychiatrists, chaplains, and family support group members took care of the emotional and material needs of the victims' families and friends. The hospital staff identified and greeted family members, participated in the death and casualty notification process, accompanied the families during their visits to help with their emotional reactions, and scheduled special counseling for children and adolescents at their schools or at the Rumbaugh Child and Adolescent Mental Health Clinic nearby the installation. The family support center organized various types of assistance—food; lodging, usually at Moon and Hardy Halls and the Fisher House, all on Fort Bragg; transportation; baby sitting; and legal advice, ensuring that adjutant general officers were present. The local chapter of the American Red Cross, Army Community Services, and Army Emergency Relief stationed representatives in the Weaver Conference Room to offer their services as well. In addition, Sharon Thompson operated a family assistance activity at the Fort Bragg Community Center and was the point of

[13] XVIII Abn Corps AAR, 12 Apr 94, pp. 8, 19. See also pp. 3–5, 9–11, 18, 20, 28.



Fisher House at Fort Bragg

contact for people around the nation who were inquiring about their loved ones.[14]

The family support group concept, as institutionalized in the Army Family Action Plan, binds Army spouses to assist families on a regular basis but even more so during a unit deployment or a crisis. Military wives demonstrate their adeptness at handling the emotional needs of families, especially the spouses of injured or dead soldiers. Pam Steele, Jane Marcello, Kathy Abizaid, Anne McChrystal, and Charlene Austin were key players in the support group. The "Trauma in the Unit" discussions, which most commanders' wives take with their husbands as part of the one-week command team seminar at Fort Leavenworth's Command and General Staff College (CGSC), guided the support group in handling the families' concerns and helping them after the tragedy. The commanders' wives could be seen carrying their "Trauma

[14] Memo, Col Stephen L. Jones, Dep Cdr for Clinical Services, WAMC, to U.S. Army Center of Military History, 3 Apr 95, sub: Medical Response to the F–16 Crash at Pope Air Force Base, 23 March 1994 (hereafter cited as S. Jones Memo); Interv, Lt Col Iris J. West with Pam Steele, 22 Apr 94 (hereafter cited as P. Steele Interv); Interv, Sgt Patricia Lewis with Anne McChrystal, 12 Apr 94 (hereafter cited as A. McChrystal Interv). The Fisher House was one of twenty houses donated by the Zachary and Elizabeth M. Fisher Medical Foundation, to house family members of sick servicemen on U.S. military bases.

in the Unit" guides with them into the Weaver Conference Room. Although the family support group was not a formal organization, formal instruction at CGSC about such matters again paid dividends.[15]

The family support group embraced the same tone of empathy and kindness as set by the division commander. Shortly after the accident, Colonel McChrystal remembered Steele's words: "We will take care of families. We will do this. I don't care what it costs. . . . This is what we are going to do. This is my intent." The general's statement provided direction for his officers and their wives; they worked as partners in the aftermath of the tragedy and facilitated the tasks of the family support group.[16]

A nucleus of military wives arrived at Womack shortly after the accident and stayed until the early hours of the morning, providing support to the families that gathered there. They gave hugs, held hands, listened, obtained food, made contacts for plane tickets, and did what was necessary to organize assistance. According to Pam Steele, the wives dealt with the emotions by keeping a sense of levity, a sense of humor; by talking about the accident; and by "feeling the sorrow." The division commander's wife was there for them as well as for the families.[17]

Anne McChrystal had been responsible for family support within the 2d Battalion, 504th Infantry, since shortly after her husband had assumed command eleven months before the accident. Believing that it was easier for a company "to grow closer," she ran family support at the company level, seeing to it that there were company Christmas and Halloween parties. However, the Pope Air Force Base crash, in which her husband's battalion had suffered the most casualties, was her first experience with a tragedy "of this magnitude," and she relied on Pam Steele and other wives for guidance. The cohesiveness of her husband's battalion eased her task. "If you have a close knit unit family, support will kick in," Anne McChrystal remarked. "Some young wives made a bond that will never be broken with wives of the injured and dead, baby sitting for them and just staying with them." With Mrs. Steele and Mrs. Abizaid, Anne McChrystal visited the casualties and their families on the wards of Womack and the regional hospitals during the first twenty-four hours

[15] P. Steele Interv, 22 Apr 94; S. McChrystal Interv, 22 Apr 94; A. McChrystal Interv, 12 Apr 94.

[16] Quotation from S. McChrystal Interv, 22 Apr 94. See also W. Steele Interv, 20 Apr 94.

[17] P. Steele Interv, 22 Apr 94.



Anne McChrystal with her husband

after the accident. Later, they accompanied their husbands to San Antonio, continuing their support of those undergoing burn therapy at the USAISR burn unit.[18]

The family support group found the Weaver Conference Room to have a hospitable environment for helping families. The room was large, with chairs and a hallway where people could talk privately. Within twenty-four hours Sprint Telephone Services had donated cellular phones for use by the staff and families. The Red Cross planned meals, and local restaurants donated food. The hospital EOC, one floor below the conference room, provided copies of casualty updates. Unit representatives in the division EOC became the link between the conference room and the division casualties on the sixth floor. They escorted families into the conference room and introduced them to the family support group. "They would let us know that a family member was coming in, and we would let them know where the family member was going to stay or what needed to be done," Anne McChrystal recalled. Since the family support group coordinated all assistance through military channels, she believed that the establishment of a division EOC at the hospital shortly after the accident helped the group carry out its mission.[19]

It was symptomatic of the closeness and cohesiveness of the units of the 82d Airborne Division that the response to the Green Ramp disaster went so well. A good, closely knit unit will succeed where a poor unit will not. "If someone wanted to be very bureaucratic, [he] could have made this a nightmare," said Colonel McChrystal. But the division commander set the right tone right away.[20]

Families also received support from casualty assistance centers on post. One center, the adjutant general's Emergency Casualty Assistance

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[18] A. McChrystal Interv, 12 Apr 94.
[19] Ibid.
[20] S. McChrystal Interv, 22 Apr 94.

Center, which had never been tested, was highly successful. Casualty assistance officers and families were able to process government agency benefit documents and complete the affairs of the deceased at one location. The center also coordinated housing, transportation, and other services for the families while they were in the Fort Bragg area.[21]

Although family support went well, a generic response plan would have improved Fort Bragg's crisis management. Some duplication of effort existed. Seven or eight assistance centers—each with a different mission, providing some unique form of support—were involved in the disaster; however, they seemed to be unaware not only of each other's presence, location, or mission, but also of the kinds of support they could receive from the public. The director of casualty assistance believed that a number of the Fort Bragg agencies should have been eliminated or integrated with traditional assistance centers, such as the emergency operations center and the family assistance center. If this were not feasible, he recommended that each assistance center should at least "provide clear written guidance" about its role and its "relationship to other supporting agencies," as well as develop a "needs" list for coordinating in advance with each other and sharing with the public "on an as-required basis" during an emergency.[22]

Ministry and Pastoral Care

Like family support groups, military chaplains comforted and aided those involved in the accident on Green Ramp. After hearing about the mass casualty, the Womack chaplains went to the emergency room, arriving before the first victims came in. The chaplains assisted in litter carries of the injured soldiers, offering them consolation and prayer. They moved from patient to patient in an attempt to calm the "frightened injured" and the "frantic caregiver."[23]

Installation chaplains arrived at the hospital within fifteen minutes of the emergency. Maj. Keith I. Jones, Womack's chief of ministry and pastoral care, assigned duties to his subordinates. Army chaplains were to minister to family members at hospital entrances, including the regional facilities; help establish the Weaver Conference Room as the family sup-

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[21] XVIII Abn Corps AAR, 12 Apr 94, p. 21.

[22] Ibid.

[23] Memo, Maj Keith I. Jones, Chaplain, WAMC, to Chaplain, U.S. Army Medical Command, Fort Sam Houston, Tex., 6 Apr 94, sub: WAMC MASCAL AAR.

port center; and provide spiritual and emotional comfort to patients and staff on Wards 6A, 7A, and 9A. Because of the "quickly evolving situation" and the possibility of "early morning deaths," Womack chaplains instituted a duty roster to ensure continued pastoral care. In the end, more than eighty chaplains helped soldiers, families, and friends to deal with spiritual needs as well as unseen emotional scars.[24]

Chaplain Bebber drove to Womack, after his experiences on Green Ramp. His accessibility to wards and rooms enabled him to locate patients faster than the record-keeping personnel at the hospital EOC. When he found injured soldiers from his brigade, he notified his command. He checked on the condition of the soldier he had rescued on Green Ramp, having noticed the victim's dog tags at the time of the incident. Seeking rest and support, Bebber entered the Weaver Conference Room, where chaplains had begun round-the-clock manning, and "debriefed [himself] with other survivors and those who needed to know what had happened." After midnight he went home. Before entering the house, Bebber removed his uniform so, in his words, "I would not take its smell and sight into the house. I did not want my family, especially my children, to see it. Its horror remains clear in my mind and senses even now."[25]

Immediately after the accident Lt. Ronald L. Owens, chaplain of the 2d Battalion, 504th Infantry, which suffered eighteen soldiers killed, called his unit together for counseling. Recently, Owens had participated in an exercise at Fort Polk's Joint Readiness Training Center, where he had experienced a mass casualty drill. He credited that exercise and his time spent working in a trauma unit and on the USAISR burn wards with helping him to perform his pastoral duties after the crash. On the evening of the twenty-third Owens helped mental health specialists plan formal critical incident stress debriefings and began to prepare for funerals and memorial services.[26]

Although the Air Force suffered no fatalities, Pope Air Force Base was profoundly affected by the accident. Air Force personnel witnessed "things [they] should not have to experience [in life]," stated Maj. Larry E. Towne, an Air Force chaplain. They encountered one "of life's ugliest

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[24] Quotations from ibid. See also "And Now They Turn to God," *Fayetteville Observer-Times*, 25 Mar 94, p. 15A.

[25] Memo, Capt Gerald K. Bebber, Chaplain, 525th Military Intelligence Brigade, to Chaplain, XVIII Airborne Corps, 12 Apr 94, sub: After-Action Report, Green Ramp Catastrophe, 23 March 1994.

[26] Interv, Sgt Patricia Lewis with Lt Ronald L. Owens, 11 Apr 94.

moments." Air Force chaplains were there to help them assess who they were and what they believed about God and the universe in which they lived, as well as to try to make some sense out of what had happened.[27]

Chaplain Towne "provided a listening ear for many who needed to release their emotions, . . . obviously shaken" after the accident. He talked to survivors who gathered near the road; in particular, he worked with the graves registration personnel, who prepared the bodies. Seeing and handling the victims—some violently dismembered, others burned beyond recognition—created unbelievable stress. People under stress need to talk, and the chaplains were trained to listen. They spent the next few weeks helping many through the healing process.[28]

Public Affairs

While chaplains ministered to the spiritual and emotional needs of those involved in the accident, Fort Bragg's public affairs officers interacted with the news media and prepared press releases. Immediately after the emergency the XVIII Airborne Corps public affairs office (PAO), which had primary responsibility for press relations, received calls from local, national, and international news media outlets. All requested information on the crash, numbers of dead and injured, interviews with casualties, and access to the accident site. The corps PAO coordinated with the Fort Bragg military police to allow reporters to meet corps public affairs officers at a specified location near the scene of the accident and at other sites on post.[29]

To handle phone calls from local citizens, families, and friends about casualties, the XVIII Airborne Corps set up a toll-free hotline at the family assistance activity at the Fort Bragg Community Center. Volunteers and employees of the center manned the switchboard. Social workers, chaplains, and psychiatrists worked the phones too "in order to comfort the families," said Margaret Tippy, Womack's public affairs

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[27] Quotations from Larry E. Towne, "Why Did It Happen?," *Tiger Times* (Pope Air Force Base, N.C.), 1 Apr 94, p. 14. See also Ruth Sheehan, "Many Crash Survivors Suffer Severe, Life-Threatening Burns," *News & Observer* (Raleigh, N.C.), 25 Mar 94, p. 16A.

[28] Quotations from Kimberly N. Mason, "Ministers Console Victims," *Tiger Times* (Pope Air Force Base, N.C.), 1 Apr 94, p. 14. See also Towne, "Why Did It Happen?," p. 14. The Air Force offered counseling to the two pilots who ejected from the F–16 that crashed into the C–141.

[29] After-Action Report, XVIII Airborne Corps Public Affairs Office, n.d., p. 1 (hereafter cited as XVIII Abn Corps PAO AAR).

officer. She provided reporters with the hotline number, which the news media publicized.[30]

After learning of the accident, Margaret Tippy visited the hospital EOC to obtain information about the collision. She immediately updated Fort Bragg's other public affairs offices about the crash and began working closely with them in communicating with the news media and local communities. The XVIII Airborne Corps' director of community relations, Lisa Johnson, arrived around 1445 to help Tippy; Johnson had been media relations chief during DESERT SHIELD/DESERT STORM and was experienced in dealing with the public during a crisis. The 82d Airborne Division PAO and the 22d Public Affairs Detachment (Mobile) also sent representatives, increasing Womack's public affairs officers to four. The Womack PAO had no communication network with public affairs offices outside of Fort Bragg; hence, Tippy could not coordinate activities with her counterparts at the regional hospitals.[31]

The corps PAO authorized coverage of Womack but only at a distance, thus preventing the appearance of a cover-up while maintaining privacy. Reporters began to gather at the hospital around 1445, but by darkness they were accosting patients and families in the parking lot. Tippy then relocated them to a designated area not far from the hospital. She felt that by corralling them in one place she could retain better control. About every half hour Tippy visited the emergency room or the hospital EOC to obtain information. Then, one of the four public affairs officers went on camera every hour with an update. The news media, "by and large, were compassionate," Tippy remembered, "and helped to get the word out to the community"—publicizing the hotline number; broadcasting Colonel Eggebroten's request that anyone who did not need to be at Womack stay away; organizing food campaigns; directing people to drive with their lights on and to wear red, white, and blue ribbons in honor of the casualties; and squelching a rumor that Womack needed blood donors. In these respects, the press was of great help in the Army's response to the disaster.[32]

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[30] Quotation from Interv, Lt Col Iris J. West with Margaret Tippy, 14 Apr 94 (hereafter cited as Tippy Interv). See also XVIII Abn Corps PAO AAR, p. 1.

[31] Tippy Interv, 14 Apr 94; S. Jones Memo, 3 Apr 95.

[32] Quotations from Tippy Interv, 14 Apr 94. See also S. Jones Memo, 3 Apr 95; Margaret Tippy, Information Paper to Health Services Command PAO and Army PAO, 29 Mar 94, sub: After-Action Report on Womack Army Medical Center Public Affairs Activities Involving Injured Soldiers From Aircraft Crash, pp. 1–2 (hereafter cited as Tippy Info Paper); XVIII Abn Corps PAO AAR, p. 1.

Scores of radio, print, and television reporters had descended on Fort Bragg to cover the Pope Air Force Base crash. They "could have filled an over-strength combat company." ABC, CBS, NBC, and CNN television crews shuttled in caravans between Fort Bragg and Pope Air Force Base, in search of "live" interviews for their morning and evening news shows. At least one tired and harried public affairs officer went with them. Sometimes, the reporters' requests for information caused a logistical nightmare for the Fort Bragg public affairs officers. Phones rang continuously.[33]



Margaret Tippy

From the start Margaret Tippy, the organized and businesslike but compassionate public affairs officer, was concerned about media scrutiny and protecting the privacy of patients and families. To ensure that the news media were "not so close that a zoom camera could pick up someone's face," she proposed that a media center be established away from the hospital. The corps PAO, however, denied this request, because of manning problems; uncertainties about location and its usefulness to the media; disrupting activities of the officers club, normally the media site for any large-scale crisis; operational costs; and a desire not to prolong the crisis story. The corps believed that a media center was necessary only for long-term events. A media center notwithstanding, no photographs of injured soldiers were allowed during the initial phases of the mass casualty, and the reporters were kept out of the hospital for three days.[34]

To provide the public with information about the Green Ramp disaster, Fort Bragg held three press conferences on the twenty-fourth. The corps PAO arranged a joint press conference at 0645 for the installation

[33] "Horde of Reporters Descends on Bases for Crash Story," *Fayetteville Observer-Times*, 25 Mar 94, p. 14A.

[34] Quotation from Tippy Interv, 12 Apr 94. See also Tippy Info Paper, 26 Mar 94, p. 2; S. Jones Memo, 3 Apr 95; XVIII Abn Corps PAO AAR, p. 1.

and corps commander, General Shelton, and Pope's 23d Wing commander, Brig. Gen. Bobby O. Floyd; survivors and clinical specialists spoke as well. The Womack PAO held the second press conference at 1300 outside the hospital. A general surgeon defined burn treatment; a psychiatrist, a chaplain, a social worker, and a medical supply officer explained their respective roles in the disaster response; and Colonel Timboe, the hospital commander, shared his insights. Later in the evening the division PAO hosted the third press conference in front of Womack. Secretary of the Army Togo West, who had visited many casualties that day, praised their morale and high spirits. "To a man and woman, they said they were ready to get back to what they signed up to do," reported West when interviewed. Fort Bragg's public affairs officers coordinated media events and press releases with the corps PAO, to ensure that all involved at Fort Bragg spoke with one voice. The corps commander, in turn, had direct responsibility to the community.[35]

Community Support

The Fayetteville and Fort Bragg communities have traditionally come together in times of trouble. But the magnitude of the tragedy on Pope Air Force Base resulted in a new level of community response. The community shared the enormous grief and offered untold practical assistance.[36]

Immediately following the accident, the Fayetteville community began calling Fort Bragg to offer support. After Womack Army Medical Center requested food to feed its increased staff, Pizza Hut delivered free pizzas to the hospital and to soldiers of the 16th Military Police Brigade. A former paratrooper worked for the pizza company. Ira Hamm remembered delivering two pizzas to the MPs controlling traffic near the emergency room entrance. "I did it because I've been in their shoes. I know what it is like," he said. The gesture was appreciated. "It's nice to know that there are people out there who care about soldiers," commented one MP. The press publicized the show of compassion, and gifts of food began pouring into the hospital from McDonald's, Taco Bell, Hardees, Papa John's, Domino's Pizza, and

[35] Quotation from Henry Cuningham, "Army Secretary West Touched by Disaster," *Fayetteville Observer-Times*, 25 Mar 94, p. 21. See also S. Jones Memo, 3 Apr 95; Tippy Interv, 12 Apr 94; Tippy Info Paper, 29 Mar 94, p. 1.

[36] "A Shared Calamity," *Fayetteville Observer-Times*, 26 Mar 94, p. 16A.

Kentucky Fried Chicken. "A gentleman showed up from Krispy Kreme and delivered box after box of doughnuts—I have no idea how many," said Margaret Tippy. "The outpouring of help [was] just tremendous."[37]

The community extended other forms of assistance. Housewives baked brownies and cookies and delivered them to the post. People donated money that the family support group set aside for the families. Bags of food and toiletries showed up in the foyer of the Fisher House, where families of sick soldiers stayed. Hundreds of volunteers offered their time and energy. The Fayetteville Regional Airport reserved two runways for military use. "It was good for those not directly involved to be helping. . . . [It was] good for them emotionally," stated Pam Steele. The mayor of Fayetteville spent much time with General Steele during the aftermath of the accident.[38]

The Pope Air Force Base disaster helped Fayetteville and Fort Bragg to "turn a corner" in their relationship. Relations between Fort Bragg and its surrounding civilian communities were strained during the Vietnam War, but the communities became closer again during DESERT STORM. The tragedy on Green Ramp strengthened the bond between the civilian and military communities that the Gulf War had established and enhanced "the resources that military people can always be depended upon to muster" in time of need.[39]

Fort Bragg's military and civilian communities came together in the immediate aftermath of the Green Ramp disaster to support the casualties and their families. Emergency operations centers, assistance hubs, family support groups, chaplaincies, and public affairs offices, each with a unique mission and service—timely information, casualty accountability, family subsistence, counseling, and public news—responded to the crisis. Because these organizations were designed to handle several contingency operations at a time, some confusion and overlapping of duties almost certainly resulted. Nevertheless, the myriad resources that these multiple agencies threw into the response ulti-

[37] As quoted in Shannon Rasmussen and Michele R. Hammonds, "Community Acts Bravely During Crisis at Pope," *Paraglide* (Fort Bragg, N.C.), 24 Mar 94, p. 1A.

[38] Quotation from P. Steele Interv, 22 Apr 94. See also W. Steele Interv, 20 Apr 94; Kathryn Quigley, "Community Reaches Out To Comfort, Aid Families," *Fayetteville Observer-Times*, 25 Mar 94, pp. 15–16.

[39] First quotation from Interv, Lt Col Iris J. West with Maj Patricia D. Horoho, 12 Apr 94; second quotation from "A Shared Calamity," p. 16A.

mately led to success. While Fort Bragg and Womack Army Medical Center officially prepared to mourn their losses, Fort Sam Houston, Brooke Army Medical Center, and the Institute of Surgical Research in San Antonio organized to receive the severely burned soldier patients and their families.



Brooke Army Medical Center, Fort Sam Houston, Texas. Brooke housed the burn wards of the U.S. Army Institute of Surgical Research, known and recognized for excellence in the field of burn management. As the Army burn unit treated Fort Bragg's severely burned paratroopers, Brooke and the garrison organized assistance for their families and friends.

4

The Severely Burned

"How incredible it was to witness a post located in one state and a post located in another state literally come together and take care of an immediate need."

—*Linda Thomas*

On 23 March, when disaster struck at Pope Air Force Base, Brig. Gen. Robert G. Claypool, MC, the commander of Brooke Army Medical Center, was attending a video teleconference at the U.S. Army Health Services Command at Fort Sam Houston. Also present in San Antonio were Brig. Gen. John J. Cuddy, MC, the deputy commander of the Health Services Command and the commander of the U.S. Army Medical Department Center and School; Maj. Gen. Edgar Anderson, Jr., MC, the commander of Wilford Hall Air Force Medical Center and the chairman of the San Antonio Health Care Coordinating Council; and Brig. Gen. Paul K. Carlton, MC, the director of medical services and training at the U.S. Air Force Education and Training Command. At the opposite end of the video teleconference, in Alexandria, Virginia, were Lt. Gen. Alcide M. LaNoue, MC, surgeon general of the Army; Lt. Gen. Alexander M. Sloan, MC, surgeon general of the Air Force; and members of their staffs.[1]

Following interruption of the conference with news of the crash, General Carlton alerted the U.S. Army Institute of Surgical Research (USAISR) at Fort Sam Houston of the masses of severely burned soldiers and then contacted General Ronald R. Fogelman, the air mobility commander at Scott Air Force Base in Illinois, who arranged for air

[1] Interv, Col Mary T. Sarnecky with Brig Gen Robert G. Claypool, 8 Apr 94 (hereafter cited as Claypool Interv).

transport of Air Force ventilators directly to Fort Bragg and of USAISR burn teams to Womack Army Medical Center. Carlton also made sure that airframes were available for patient transport. According to General Claypool, General Carlton's actions "probably saved five or six hours of flying time. . . . And that was just one of the ad hoc things that I think made this a more efficient and more effective exercise." Claypool began to organize Brooke's response and Lt. Gen. Marc A. Cisneros, the commander of Fort Sam Houston and the Fifth U.S. Army, the garrison's response.[2]

As chairman of the San Antonio Health Care Coordinating Council, General Anderson decided not to activate the San Antonio area casualty reception plan, whereby local facilities received incoming patients. Instead, the USAISR burn unit expanded sufficiently to receive casualties arriving at Fort Sam Houston from Fort Bragg.[3]

Institute of Surgical Research

The U.S. Army Institute of Surgical Research, originally known as the Surgical Research Unit, was formed in 1943 at the Halloran General Hospital, on Staten Island, New York, to evaluate the role of antibiotics in the treatment of war wounds. In 1947 the unit was moved to Fort Sam Houston, taking up quarters in what was then Brooke General Hospital, and, two years later, was tasked with the additional mission of studying thermal injuries, a concern of increasing importance during the nuclear age. In May 1953 it was officially organized as an activity of the Office of the Surgeon General and in October 1958, as the previously redesignated U.S. Army Surgical Research Unit, assigned to the U.S. Army Medical Research and Development Command, in Washington, D.C., but attached to the then Brooke Army Hospital. In 1970 the unit received its present name, reflecting the concept "that the burn patient is the universal trauma model with the multisystem effects of thermal injury representing an exaggerated form of the stereotyped response to all forms of trauma."[4]

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[2] Quotation from ibid. See also Memo, Lt Col Gerald Nolan, Chief, Plans, Training, Mobilization, and Security Division, BAMC, to Chairman, Emergency Preparedness Committee, 25 May 94, sub: After-Action Review for BAMC Mass Casualty (MASCAL), 23 March 1994 (hereafter cited as Nolan Memo).

[3] Nolan Memo, 25 May 94.

[4] U.S. Army Institute of Surgical Research Fact Sheet, p. 1.



Colonel Pruitt

In 1994 the Institute of Surgical Research was divided into three divisions. The Clinical Division operated the burn wards, located in two wings of the main hospital's fourth floor, and was directly involved in burn care and clinical studies. The Laboratory Division, composed of research scientists and physicians, conducted laboratory research on burn care and the support of the burn patient. This division was located on post, about 1 mile away from the main hospital. The Support Division provided administrative and logistical support to the other two divisions. At the time of the accident Col. Basil A. Pruitt, Jr., MC, was the USAISR commander and director.[5]

Besides being the only military burn unit in the United States, the Institute of Surgical Research had become a role model for other burn centers both here and abroad. It treated annually between 250 and 400 patients. The typical patient had life-threatening second- and third-degree burns on 35–40 percent of his or her body surface. Innovative concepts and techniques about burn care originated at the institute, which became known and recognized for excellence in the field of burn management.[6]

Once notified of the accident, Col. William F. McManus, MC, the Clinical Division chief, diverted a USAISR burn team, already in North Carolina, to Fort Bragg for triage and assessment of casualties. After consulting with Maj. David Lawlor, MC, a general surgeon on the burn team, McManus decided to send three more teams and additional ventilators to Womack. Burn teams, each consisting of a physician, nurse, respiratory therapist, and a 91C licensed practical nurse, were to assess the degree of care required by the accident victims and their ability to survive the flight

[5] Ibid., pp. 1–2.

[6] Ibid., pp. 2–4; Phil Reidinger, "Injured Bragg Soldiers Arrive Here," *Fort Sam Houston News Leader*, 25 Mar 94, p. 1.



Colonel McManus

to San Antonio. The institute followed up with the Global Patient Movement Requirements Center at Scott Air Force Base, which General Carlton had already alerted, on the aeromedical evacuation of the patients and the attending burn teams.[7]

Before the three burn teams could leave San Antonio, the Institute of Surgical Research had to obtain supplies and equipment for the in-flight treatment of forty to sixty casualties. "There was a mad flurry of scrounging around trying to get sufficient quantities and specific types to meet Air Force requirements," recalled Col. Elisabeth Greenfield, the USAISR chief nurse. Fortunately, Lt. Col. Charles Stetz, a clinical nurse specialist at the institute who had experienced a number of mass casualty situations, had some "institutional memory, understood what was going to be needed, [and] knew some of the resources that were available. . . ." For the next twenty-four hours Stetz worked with the flight teams to determine their requirements for fluids, medications, equipment, and other necessities, and, together with Sfc. David C. Loresch, the Clinical Division's noncommissioned officer in charge, assembled supplies—to include "23 cardiac monitors, 60 intravenous infusion pumps, 8 cases of central venous catheters, 120 liters of lactated Ringer's solution, 15 bed rolls with 36 insulated space blankets, 26 [Bird] pressure-controlled transport ventilators, and 20 standard Bear ventilators"—and obtained airframes to ferry patients. It was a tribute to their ingenuity and efficiency that they were able to do so much in so short a time.[8]

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[7] Memo, Lt Col Gerald Nolan, Chief, Plans, Training, Mobilization, and Security Division, BAMC, to CG, 82d Airborne Division, 18 Apr 94, sub: After-Action Review of Support for 82d Airborne Division Soldiers (hereafter cited as Nolan Memo); Interv, Lt Col Iris J. West with Maj David Lawlor, 26 May 94 (hereafter cited as Lawlor Interv).

[8] First quotation from Nolan Memo, 25 May 94; second quotation from Interv, Col Mary T. Sarnecky with Col Elisabeth Greenfield, 8 Apr 94 (hereafter cited as



Colonel Greenfield

Several hours passed while USAISR personnel located a pump that was compatible with Air Force flight regulations, rented additional ventilators, and procured bottles of human serum Albumin, the chief protein of human blood plasma, to be used intravenously in the treatment of shock. Some 1,300 bottles of Albumin were requested, but Brooke's pharmacy was unable to obtain that many, even through the Health Care Coalition, an organization of local health care providers in San Antonio. It seemed, according to Lt. Col. Gerald Nolan, Brooke's Plans, Training, Mobilization, and Security Division chief, that "industry [did not] stock sufficient quantities of Albumin to meet MASCAL conditions." The USAISR burn teams were able to cope with insufficient amounts of Albumin during this tragedy without any adverse affect on the patients, although the pharmacy remained concerned about future mass casualty situations. To transport the large quantity of supplies and

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Greenfield Interv); third quotation from Interv, Col Mary T. Sarnecky with Lt Col Charles Stetz, 8 Apr 94 (hereafter cited as Stetz Interv); fourth quotation from After-Action Report, U.S. Army Institute of Surgical Research, n.d., sub: Response to Pope Air Force Base Accident, p. 2 (hereafter cited as USAISR AAR).

equipment, they traveled to the airport by truck, rather than van, their normal conveyance. The first USAISR burn team departed Randolph Air Force Base, near San Antonio, for Fort Bragg at 1925 central standard time, or six hours after the accident.[9]

With the burn teams en route to North Carolina, the Institute of Surgical Research prepared to receive the Fort Bragg casualties. The USAISR burn unit, which expected more than forty from North Carolina, already had a patient census of twenty-six. Following emergency preparedness planning, Maj. David J. Barillo, MC, a general surgeon on the USAISR staff, coordinated the transfer of all but eleven patients from the institute to regional medical facilities and a veterans hospital. Colonels McManus and Greenfield expanded the burn unit's Wards 14A and 14B onto Ward 15A, located one floor above; extended shifts to twelve hours; and obtained additional nurses from the staffing agency under contract with Brooke, from the Air Force medical community, and from other Fort Sam Houston organizations. Colonels Greenfield and Stetz used their personal contacts to find former USAISR employees who could assist during the crisis; they also asked USAISR alumni, practicing in the San Antonio area, to register with the staffing agency. Those professionals were on board within seventy-two hours. To augment the USAISR staff, anesthesiologists, respiratory therapists, physical and occupational therapists, psychiatric nurse specialists, and social workers came from various facilities—other Brooke departments, the Army Medical Department Center and School; the Joint Military Medical Readiness Command, also at Fort Sam Houston; and Wilford Hall Air Force Medical Center. Three Brooke residents in general surgery, who had rotated through the burn unit, temporarily joined the surgical team.[10]

The USAISR staff was grateful for the additional help. "God knows, at a time like this, with the numbers of showers and dressing changes, just extra pairs of hands and legs to fetch and to do" were welcome, recalled Colonel Greenfield. The institute readily understood the cost to the patients should the staff become emotionally and physically drained. The temporary workers stayed about thirty days.[11]

On 24 March the twenty Fort Bragg soldier patients selected for burn treatment arrived at Brooke. Eleven came on the first medevac

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[9] Nolan Memo, 25 May 94.

[10] Ibid.; Claypool Interv, 8 Apr 94; USAISR AAR, pp. 6–8; Greenfield Interv, 8 Apr 94.

[11] Greenfield Interv, 8 Apr 94.

flight in the morning, and nine landed in the afternoon. The burn victims were wrapped in aluminum-lined blankets to keep their bodies warm. Nine of the eleven and four of the nine casualties were on ventilators.[12]

Because of a miscommunication with Scott Air Force Base, the twenty Bear ventilators sent directly to Fort Bragg proved to be incompatible with the electrical system of the C–9. Fortunately, the twenty-six Bird ventilators, which had been obtained in San Antonio for ground transport of patients to the aircraft, were hand driven and did not require electricity. The employment of mechanical ventilators, however, demanded a greater supply of oxygen than conventional breathing apparatus. The relatively short duration of the flight to San Antonio permitted the mechanical ventilation of the patients on board without depleting the oxygen supply.[13]

During the flight the burn teams, many of whom had treated burn wounds in Vietnam before acquiring additional expertise at the USAISR burn unit, managed the Green Ramp victims as if they were in an intensive care unit. The teams maintained airways, used ventilators to facilitate breathing, and provided intravenous resuscitation during the journey. Major Lawlor, who was on the first C–9, reported that the Fort Bragg soldier patients remained stable, with no bleeding problems during the less than three-hour flight. The transfer from Womack and the aeromedical evacuation went smoothly because of the burn training Army professionals had received at the Institute of Surgical Research. According to Lawlor, burn teams "learned how to transport patients by aircraft and, in particular, patients with burns who had special needs." Maj. David Mozingo, MC, a general surgeon with the USAISR burn unit, credited "the continuity of [a] staff . . . [that] knew exactly what to do." During DESERT SHIELD/DESERT STORM the USAISR burn unit had put together concepts of how to send out burn teams and return them, and that experience paid off during the aftermath of the Pope Air Force Base disaster. Buses, escorted by San Antonio police, took the Fort Bragg casualties from Kelley Air Force Base in San Antonio to the institute.[14]

The USAISR burn unit was ready, even though eleven institute patients, six of whom were children, were still undergoing treatment.

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[12] USAISR AAR, pp. 5–6.

[13] Lawlor Interv, 26 May 94; USAISR AAR, pp. 5–6.

[14] First quotation from Lawlor Interv, 26 May 94; second quotation from Interv, Col Mary T. Sarnecky with Maj David Mozingo, 8 Apr 94. See also Nolan Memo, 25 May 94.

Ward 14A was divided into two intensive care units, each with eight beds and two assigned physicians; Ward 14B became an acute care unit, with twenty-four beds; and Ward 15A was for the more stable patients. As the first Green Ramp casualties arrived on the ward, everybody teamed—nurses, medics, respiratory therapists, surgeons, and so forth. Their adrenalin was high, a usual occurrence during a mass casualty. "People were pumped," recalled Colonel Stetz. "They had their adrenalin rushing. There was teamwork . . . but some degree of fear. [They wondered:] Am I going to be able to get through this? Am I not going to hurt anybody?" Stetz believed that the physicians and nurses were very coordinated. "It looked like a well-choreographed dance. There was no panic. There was no confusion," he said. The USAISR staff had rehearsed mass casualty exercises regularly. "Intensive training . . . [and] teamwork," according to Colonel Greenfield, helped the staff to handle the twenty patients that came in on two flights only two hours apart. Everybody had a job to do and did it. Colonel Stetz confessed that his adrenalin "pumped non-stop for about a week."[15]

The soldier patients were admitted, cultured, bathed, and dressed; had labs drawn and vital statistics taken; and were in their beds in less than five hours. Between nineteen and twenty-nine years old, they had second- and third-degree burns on 6–88 percent of their total body surface (*Diagram 2*). The team of USAISR doctors, nurses, and technicians treated the patients, checked their status constantly, and evaluated their condition every eight hours.[16]

Besides the psychological stress of dealing with a mass casualty, the USAISR staff had to endure the physical stress of working in an environment of high heat (85–87 degrees Fahrenheit) and high humidity, which was necessary to keep the burn patients warm since their own natural mechanism to regulate body temperature had been destroyed. In this uncomfortable heat and humidity staff members had to wear sterile gowns, masks, and gloves—safeguards against infection. They also worked overtime, including long periods without rest, to care for the overload of badly injured soldiers.[17]

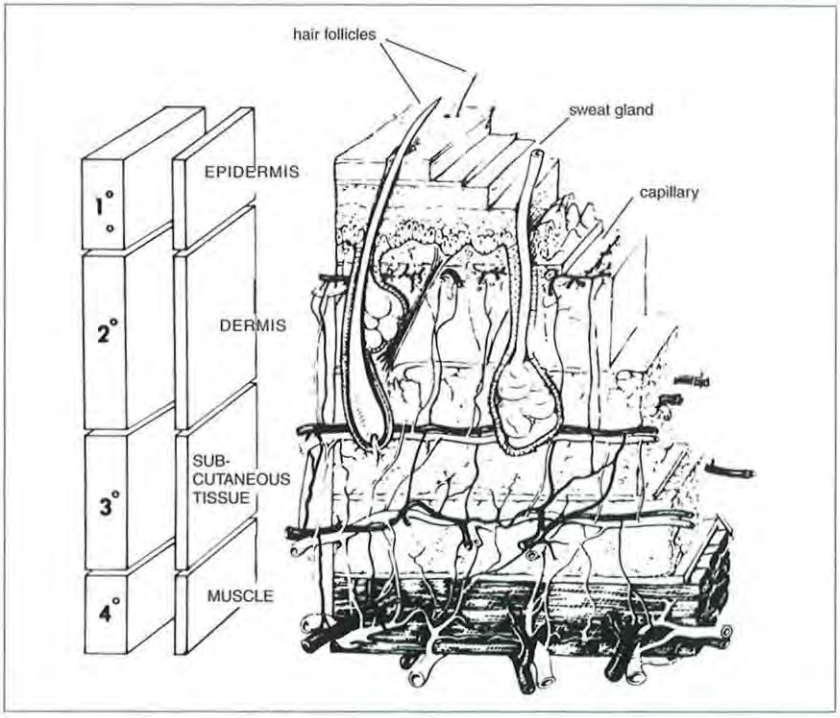
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[15] First, second, third, and fifth quotations from Stetz Interv, 8 Apr 94; fourth quotation from Greenfield Interv, 8 Apr 94.

[16] Greenfield Interv, 8 Apr 94; "Accident at Pope Has San Antonio Connection," *Fort Sam Houston News Leader*, 1 Apr 94, p. 5.

[17] Greenfield Interv, 8 Apr 94.

DIAGRAM 2—ANATOMICAL BURN DEPTH



For the USAISR staff, dehydration and emotional exhaustion were constant concerns. During the first four days of the mass casualty Colonel Greenfield arranged for box lunches to be delivered. She also ensured that liquid refreshments were provided three times a day. Later, a five-gallon vat of lemonade was brought to the USAISR burn unit, and personnel were ordered to take thirty-minute breaks.[18]

On 28 March a USAISR burn team returned to the University of North Carolina's Jaycee Burn Center to evacuate three more injured soldiers and the marine who was originally scheduled for transfer on the morning of the tragic accident. The team also visited Womack Army Medical Center to evaluate an additional fifty soldiers with "functionally significant burns," to include those on outpatient status. Twenty of the fifty patients required specialty care at the USAISR burn unit and were transferred on two medevac aircraft two days later.[19]

[18] Ibid.
[19] USAISR AAR, p. 6.

When the USAISR burn unit census peaked at fifty-three patients on 4 April, every conceivable space—even rooms in the inner cube, which had limited visibility and, therefore, were normally used for storage—contained a bed and a patient. The staff relocated those in the inner cube as soon as it was medically feasible.[20]

Two weeks after the Green Ramp disaster Colonel Stetz stated that he found his work during the mass casualty to have been remarkably satisfying. "It is [as if] we are doing what we are supposed to do, and I think that was the most rewarding part of it," he said. "From [the] start to the present (April 8, 1994), it is going very very smoothly. I have been incredibly impressed with the way everyone has reacted." Stetz gave credit for the success of the mass casualty to Colonel McManus, who directed everything and "knew instinctively what to do."[21]

Surgical treatment of the Green Ramp victims began about three days after their arrival at the Institute of Surgical Research. "Every burned soldier can expect about 2 hours of surgery for every 10 percent of his body burned," said Colonel McManus. Following resuscitation of patients, burns were incised and skin grafts performed "to achieve timely and definitive closure of the wounds." Orthopedic and soft tissue injuries were treated as necessary. The institute's one operating room and Brooke's two operating rooms were in continuous use for the first two weeks; thereafter, two of them functioned for another ten days. By 7 June surgeons had performed ninety-three operations to treat the injuries sustained by the Fort Bragg soldiers. In support of those surgical procedures, USAISR occupational therapists made "187 splints, 72 positioning devices, and 40 compression devices required for post operative antideformity positioning and rehabilitation." Sufficient supplies of whole blood were on hand for transfusions because of the blood donor program at Fort Sam Houston and other installations.[22]

The cost of the medical items needed to treat the injured soldiers during the first two weeks following the accident totaled over $200,000. The Health Services Command "quickly and with a minimum of processing time" transferred the capital from a catastrophic fund, which facilitated the ability of the Institute of Surgical Research to obtain the additional equipment and supplies. Funding could not be

[20] Greenfield Interv, 8 Apr 94.

[21] Stetz Interv, 8 Apr 94.

[22] First quotation as given in "Accident at Pope," p. 5; second and third quotations from USAISR AAR, p. 10. See also Nolan Memo, 25 May 94.

made directly to the institute "because ISR allocations are designated for research."[23]

Although preparations to receive the Green Ramp casualties went well, the Institute of Surgical Research lacked a "formal [written] plan to manage an influx of burn patients that exceed[ed] the ISR bed capacity and/or ability of the staff to manage patient care requirements." Duplication of effort and cumbersome procedures to obtain additional staff resulted from this lack of planning. Identifying supplemental staff for the institute to use during future mass casualty situations was paramount. Colonel Nolan later recommended that "an annual review should be made of ISR trained personnel registered with local agencies, other area volunteers, and Individual Mobilization Augmentees. . . . Resources would normally be needed over a 2-month period. MEDCOM [U.S. Army Medical Command] tracking could also identify trained personnel who could be brought into the region after the local lists are exhausted."[24]

The burn management of the forty-three Fort Bragg soldiers represented the largest mass casualty response in the history of the Institute of Surgical Research. Its

> unparalleled ability to safely transport large numbers of critically ill patients was fully validated. Only through the constant state of readiness, ensured by the day-to-day clinical and aeromedical transfer activities of the burn center and its correlative laboratory activities dedicated to further improvement in burn care by the conduct of military relevant research, can the low morbidity no mortality results achieved in these patients be achieved in the future.

These results notwithstanding, Colonel Nolan, not content to rest on the successes, called for "a review of current casualty reception plans in light of lessons learned." In his opinion, having to prepare reports and to answer incoming phone calls meant that the USAISR staff had less time to spend with patients. To improve operations in the future, Nolan recommended that the regular daily patient report be accepted by all commands—or, as an alternative, tasking an administrative branch with reformatting the reports—and that the post operator and administrative officer refer inquiries about mass casualties to the public affairs office.[25]

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[23] Quotations from Nolan Memo, 18 Apr 94. See also USAISR AAR, p. 9.

[24] Nolan Memo, 18 Apr 94.

[25] First quotation from USAISR AAR, pp. 11–12; second quotation from Nolan Memo, 18 Apr 94.



Sergeant Burson

Soldiers Remember

One of the first casualties from the 2d Battalion, 505th Infantry, to be airlifted to San Antonio on 24 March was Sgt. Christopher "Chris" J. Burson. Burson remembered nothing that had happened to him on Green Ramp, in the emergency room at Womack, or on the flight to San Antonio. With burns on his feet, legs, hips, and hands and with part of his left ear missing, he woke up delirious in the USAISR burn unit. He experienced more mental anguish than physical pain because, in his words, "all the nerve endings in my legs were burned and dead." He endured painful scrubs and underwent three skin grafts and six surgeries. Three weeks after the accident his spirit soared on the day he took his first few steps; "it was like being a baby again learning to walk." To his delight, Burson discovered that he enjoyed occupational therapy. He practiced stepping on and off a 4-inch block and picking marbles out of playdough with his stiff left hand. Before the accident Burson had aspired to a career as a sergeant major, a lifelong dream; but now, as soon as he was sufficiently recovered, he wanted to become an occupational therapist. "God makes things happen for a reason," the young soldier said.[26]

On the same plane as Burson were Sergeant Kelley and Private Fletcher. Kelley, with burns on 70 percent of his body, and Fletcher, with burns on over 35 percent of his body, underwent many surgeries and skin grafts. Kelley found the burn treatment painful, "but the staff is right there beside you to help you." Fletcher had nothing but praise for the family support system, which "treated my family and friends exceptionally well," providing the support and perspective they needed to deal

[26] As quoted in Larry Bingham and Kim Oriole, "A Battle To Survive," *Fayetteville Observer-Times*, 29 Jan 95, p. 7A. See also Interv, Mary Ellen Condon-Rall with Sgt Christopher J. Burson, Sgt Jacob T. Naeyaert, Jr., and Spc Michael P. Fletcher, 2 Aug 95 (hereafter cited as Burson, Naeyaert, and Fletcher Interv).

emotionally with his injuries; he also found great comfort in the handmade get-well cards that he received from schoolchildren around the country, especially the one that enclosed Band-Aids for his speedy recovery. Both soldiers appreciated the visits from unit members of their respective battalions, which raised their spirits and was a tribute to unit cohesiveness.[27]



Sergeant Naeyaert

Four days later, on the twenty-eighth, a USAISR burn team picked up Sergeant Naeyaert from the Jaycee Burn Center at Chapel Hill and evacuated him, as well as two other paratroopers and a marine, to San Antonio. Naeyaert's broken ankle and abdominal wound, where his spleen had been removed, were beginning to heal; however, the burns on his legs, back, and hands needed skin grafts. Family visits lifted his morale, he recalled, as he was on the critical list for about two months. He was indebted to the Red Cross for paying for his family's travel expenses. While recuperating, Naeyaert had the distinction of marrying his girlfriend, Amy, a member of the XVIII Airborne Corps' Headquarters and Headquarters Company, in the hospital chapel. Everything for the reception, held at the Fisher House on post, was donated, including the food and wedding cake.[28]

One of the battalion's unit commanders, Captain Mingus, reached Brooke on 30 March, together with nineteen other evacuees. Before going up to the burn ward, they were showered and scrubbed to eliminate any bacteria they might have picked up on the flight from North Carolina. Medication eased some of their pain.[29]

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[27] First quotation from Interv, Lt Col Iris J. West with S Sgt Michael T. Kelley and Mrs. Lisa Kelley, 25 May 94; second quotation from Burson, Naeyaert, and Fletcher Interv, 2 Aug 95.

[28] Interv, Lt Col Iris J. West with Sgt Jacob T. Naeyaert, Jr., 25 May 94.

[29] Interv, Col Mary T. Sarnecky with Capt James Mingus, 8 Apr 94. The risk of infection in burn patients is high because broken skin allows bacteria to enter the body.



Fisher House at Fort Sam Houston

Mingus suffered burns on his hands and face. He had already received some stabilizing burn care and physical therapy at Womack. His subsequent treatment included surgery to incise the wounds, as swelling from burned tissue impedes blood flow to arms and legs, and skin grafts on his hands. During his ordeal the captain bonded with his fellow patients, especially the eleven soldiers from his company, with whom he developed a tighter and warmer friendship than before. He also became closer to his family, whom the Army flew to San Antonio so that they could be with him. For Mingus, tragedy produced the personal good of closer relationships with family and friends.[30]

Captain Walters, Mingus' counterpart in the 1st Battalion, 504th Infantry, arrived at Brooke at the same time. Walters was impressed with the way the competent USAISR staff explained every burn treatment to him and the reason for it. His witnessing the staff's compassion and commitment, working twelve-hour shifts, made him "appreciate the medical side of the Army a lot more. . . ." He went into surgery on 4 April to treat the second-degree burns on his hands and ears.[31]

Morale

Soldier and family morale was bolstered by the many distinguished visitors who called on the injured paratroopers at the USAISR burn unit. Between 25 March and 20 May more than twenty digni-

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[30] Ibid.

[31] Interv, Lt Col Iris J. West with Capt M. Lee Walters and Lt Stephanie Walters, 13 Apr 94 (hereafter cited as Walters Interv).

taries, including the Army chief of staff, Fort Bragg commanders, Congressman Frank Tejeda of Texas, and philanthropist Yale King, journeyed to San Antonio to see the Fort Bragg soldier patients. General Steele made the trip three times to be with his troops, and General Frederick M. Franks, Jr., the commander of the U.S. Army Training and Doctrine Command, visited twice. The visits of notable persons to the Green Ramp casualties demonstrated, more than anything else, an appreciation of the sacrifices soldiers make for their country.[32]



General Franks

General Steele's first visit was on 26 March. To boost morale, he brought soldiers from the units that suffered the most casualties and also some of his subordinates—Sergeant Major Slocum; Colonels Schmader, Abizaid, and McChrystal; the division chaplain, Lt. Col. Jerome Haberek; and the division surgeon, Maj. Jeffrey B. Clark, MC. They all wore their battle dress uniforms and maroon berets. Pam Steele, Kathy Abizaid, and Anne McChrystal also accompanied the group. The commanding general felt that "it was important to take the ladies with us," since women have the facility to comfort and console. During the visit General Steele showed how much he cared about his troops: He cried with them, he held their hands, and he prayed with them. Later, he would say that he "learned from the whole process that there is nothing wrong with showing your emotions." He and his entourage were on the ground at Fort Sam Houston for about four hours before returning to Fort Bragg on an Army C–20 aircraft, which the secretary of the Army had provided for their journey.[33]

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[32] Tab L (Brooke Army Medical Center VIP Visits) in Capt Michael Scudder, 82d Airborne Division (FWD) Liaison Team Smart Book (hereafter cited as Scudder Smart Book).

[33] Quotations from Interv, Lt Col Iris J. West with Maj Gen William M. Steele, 20 Apr 94. See also Tab L in Scudder Smart Book.

The following day Army Chief of Staff General Gordon R. Sullivan called on the twenty burn victims. He was accompanied by Generals LaNoue and Cisneros. Sullivan greeted the soldiers with "Hoo-ahs!," an expression that shows camaraderie. After speaking to every soldier, except one whose medical situation made it impossible, the chief of staff visited with family members. He praised the efforts of the Fort Sam Houston Family Assistance Center in helping the families of the burned paratroopers and thanked the San Antonio community for the donations of food and other assistance.[34]

The visits of General Franks on 29 March and 11 May "increased everyone's optimism" and had a "mercurial and superb" impact, according to General Steele. Franks had lost a leg in Vietnam and remained in the Army. Burson, Fletcher, and Naeyaert recalled that General Franks' visit had inspired them to move beyond the tragedy and get on with their lives.[35]

The USAISR staff members were impressed by the Army commanders' "extreme concern and devotion" for the soldiers and their families. They worried, however, about the increased infection risks "posed by multiple visitors" and the interference those visits made "with the necessary activities of patient care." Distinguished visitors were not restricted to normal visiting hours. Colonel Greenfield, the sharp no-nonsense chief nurse, wondered why their visits were not coordinated so that they could have come "at the same time." Colonel Nolan later recommended restricting VIP visits "to general officers directly in the patients' chain of command. If such a policy were established, it would promote patient morale while effecting infection control."[36]

Although aspects of visitor traffic should be addressed in mass casualty planning, the overwhelming advantages of VIP visits on soldier morale could not be denied. For some soldiers, for example, Captain Walters, "the entire chain of command coming out really made a difference." While recovering from his burns, Walters had to cope with the loss of his good friend and jumping buddy in the acci-

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[34] "Army Chief of Staff Visits Burned Paratroopers," *San Antonio Express News*, 28 Mar 94, p. 6A. One patient was medically incapable of exchanging Hoo-ahs!, recalled Phil Reidinger, a Fort Sam Houston public affairs officer who was present during the visit.

[35] Quotations from Steele Interv, 20 Apr 94. See also Tab L in Scudder Smart Book; Burson, Naeyaert, and Fletcher Interv, 2 Aug 95.

[36] First three quotations from USAISR AAR, p. 11; fourth quotation from Greenfield Interv, 8 Apr 94; fifth quotation from Nolan Memo, 18 Apr 94.



Generals Steele and Sullivan

dent. He found that the VIP visits bolstered his morale during his time of grief. Even that of his wife, Lt. Stephanie Walters, improved. She learned from the accident "how wonderful the Army community is," especially the medics' "willingness to go an extra shift, or an extra day, or another case. . . ." Lieutenant Walters saw firsthand "how committed the Army is in taking care of its own." For her, the experience "really reinforced [the notion] that people are the most precious commodity in the Army."[37]

[37] Walters Interv, 13 Apr 94.

Command and Control

At 1600 on the day of the disaster General Claypool established an emergency operations center (EOC) at Brooke and placed Colonel Nolan in charge. The EOC staff provided information to the Health Services Command, exchanged data with Fort Bragg during the emergency, and sent three soldiers to meet the arriving casualties at the airport. General Claypool also provided personnel from Brooke's Patient Administration Division (PAD) to work with the USAISR burn unit and with the families. During the initial stages of the mass casualty PAD representatives staffed the Fort Sam Houston Family Assistance Center, acted with the 82d Airborne Division liaison team in helping family members receive accurate and timely information, and facilitated the issuance of invitational orders to next of kin.[38]

Despite best efforts, some problems became apparent during the mass casualty response. At first the information on when and how many patients were coming into the burn unit was not always reliable, a problem that lasted until about 0630 on 24 March. Colonel Nolan subsequently recommended that a PAD representative be sent with the forward team to provide accurate information about numbers of victims and times of flight arrivals and to expedite the admission process. Another weak area was that activities often were not properly coordinated through the Brooke EOC, which was supposed to be the source of all information. Although "communications exceeded expectations," the radios being used by support personnel were incompatible with those at the operations center. The EOC staff sometimes could not respond or lacked the appropriate details.[39]

Nevertheless, information flowed more smoothly during the mass casualty response at Fort Sam Houston, with its one emergency operations center, than at Fort Bragg, with its multiple emergency operations centers providing conflicting material.

Liaison Team

While General Claypool established a Brooke EOC to deal with the mass casualty, General Steele organized an effort to ensure that his injured paratroopers and their families would be well taken care of at

[38] Nolan Memo, 25 May 94; Claypool Interv, 8 Apr 94.
[39] Nolan Memo, 25 May 94.

Fort Sam Houston. At 0300, on the twenty-fourth, Steele sent a nine-man liaison team to San Antonio to assess the situation and provide the 82d Airborne Division with information about the soldier patients at the USAISR burn unit and the handling and care of their family members. He placed Capt. Michael Scudder, an Adjutant General Corps officer known to be intense and mission oriented, in charge of eight men—one each from the 1st and 3d Brigades, three for administrative functions, two for tactical communications, and a chaplain. Captain Scudder's previous deployment for disaster relief during Hurricane Andrew, on only seven hours' notice, helped prepare him for his new assignment.[40]

During the flight to San Antonio Scudder and his team developed a list of eighty things they needed "to accomplish to make business happen for us." Like other well-trained soldiers, who go to combat and figure out how to make the mission a success, the liaison team "just converted what we normally do every day in the Army to this particular situation," said the young captain. To maximize efficiency, Scudder divided responsibilities into eight or nine tasks per individual. Arriving at Fort Sam Houston at 1400, the team members agreed on a time and place to meet and then went their separate ways to perform their individual assignments.[41]

The liaison team received working space at the Fort Sam Houston Family Assistance Center, where Scudder and his team actually lived until other accommodations could be found for them. There was little time to enjoy comfortable quarters, however, for they worked twenty-four hours a day supporting patients and families. By the fourth day Scudder had enlarged his team to fourteen to assist what eventually would be 43 patients and 120 family members.[42]

Captain Scudder coordinated with Colonel Nolan at the Brooke EOC. He also met with key installation officials—Edward K. Miller, director of the Plans, Training, Mobilization, and Security Division, who was Nolan's counterpart, and with James "Jim" R. Evetts, director of Fort Sam Houston's personnel and community activities. They and representatives of the five different commands at Fort Sam Houston attended daily emergency operations meetings involving the post commander, which gave Scudder a direct link to the post leadership. This leadership

[40] Interv, Col Mary T. Sarnecky with Capt Michael Scudder, 7 Apr 94 (hereafter cited as Scudder Interv).

[41] Quotations from Scudder Interv, 7 Apr 94. See also Nolan Memo, 25 May 94.

[42] Nolan Memo, 18 Apr 94.



Captain Scudder

put their employees to work to solve problems for Scudder.[43]

Problems included securing guest rooms and transportation for family members; working out financial arrangements for step-parents and girlfriends, who did not meet the standard requirements for assistance; making certain that donation and foundation monies were directed toward financial support of families, once the brigades' normal family support money had run out; and protecting families from media scrutiny by keeping reporters outside the family assistance center and the hospital. "There is no need the families have that we cannot provide them," Scudder said.[44]

The liaison team ensured that mothers and fathers rested enough and ate regular meals. Israel Tamez and his wife, Ramona, of Victoria, Texas, stayed at a guesthouse about 150 feet from the hospital. They visited their son, Pvt. Willy Leos of the 2d Battalion, 504th Infantry, as often as possible, which usually meant two daily visits, each limited to a little over two hours—a precautionary measure due to the concern about infection. Sleepless nights made the parents tired, but they were thankful that their son's hospital stay would be only about three weeks.[45]

Importantly, the liaison team boosted the morale of the families. Capt. Michael Guthrie, a team member, realized immediately how it helped them "to see a beret like their son's and recognize the shoulder patch. They see a beret and they feel more comfortable," he said. "It's like we're their second family."[46]

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[43] Scudder Interv, 7 Apr 94.

[44] Ibid.

[45] Larry Bingham, "Burned Soldier, Father Relish Life," *Fayetteville Observer-Times*, 28 Mar 94, p. 1A; "Army Liaison Team Helps Families of Burn Victims," *News & Observer* (Raleigh, N.C.), 29 Mar 94, p. 3A.

[46] As quoted in Larry Bingham, "Pope Families Comforted," *Fayetteville Observer-Times*, 28 Mar 94, p. 7B.



Preparing berets for the burn victims

On 30 March Brig. Gen. Michael Canavan, the 82d Airborne Division's assistant commander for operations, delivered maroon berets in sterile plastic bags—another precautionary measure against infection—to the injured paratroopers at the USAISR burn unit. The berets, donated by the U.S. Cavalry Store in Fayetteville, were reminders of the support that came "from hundreds of miles away."[47]

[47] As quoted in ibid.

A member of the liaison team was always at the hospital, either in the family assistance room or on the burn ward. "These patients are still my soldiers, and I have responsibilities to them," said Captain Scudder. The extra support from the liaison team in taking care of the Green Ramp casualties and their families "made our job easier," reported Major Lawlor. Colonel Stetz echoed Major Lawlor's sentiments: "I have to take my hat off to the 82d. . . . I think Captain Scudder and the liaison team here have done an extraordinary job, not only in supporting the family members that are there . . . [but] coming up to help support the soldiers. . . ." The presence of "their own people," added Stetz, meant more to the burned paratroopers than anyone else's.[48]

The liaison team helped the burn unit staff to explain the operation of the hospital to the families. Colonels Greenfield and Stetz met with the families as a group to interpret the restrictive visiting hours and the concern about infection. Despite their explanations, about 10 percent of families complained about being kept from visiting their loved ones. "Dealing with the families is a big issue," Stetz said, so Scudder's group "ran interference." Lieutenant Walters remembered that the liaison team explained "what the staff . . . [members were] like and how they worked." Colonel Greenfield believed that the team was "probably the single biggest godsend in this entire operation. . . . We have a total of fourteen people over there that are basically dealing with the families," she said. Colonel Stetz remarked: "The success of this whole operation has to lie equally with the 82d Airborne Division, not only the Institute of Surgical Research." The presence of Scudder's liaison team at Fort Sam Houston proved to be a mass casualty strategy boon.[49]

Family Assistance

Unlike Fort Bragg, Fort Sam Houston had a plan for managing large numbers of casualties. Following that plan, devised initially for DESERT SHIELD/DESERT STORM, the garrison's permanent Army Community Services office, which was housed in the Road Runner Community Center, an old recreational building on post that had out-

[48] First quotation from Scudder Interv, 7 Apr 94; second quotation from Lawlor Interv, 26 May 94; third quotation from Stetz Interv, 8 Apr 94.

[49] First, second, and fifth quotations from Stetz Interv, 8 Apr 94; third quotation from Walters Interv, 13 Apr 94; fourth quotation from Greenfield Interv, 8 Apr 94.



Road Runner Community Center at Fort Sam Houston

lived its usefulness, would become the Fort Sam Houston Family Assistance Center. The Army Community Services staff already knew how to tap into local community resources to benefit the Army, having established a committee for that purpose.[50]

At 1830, on the day of the accident, the garrison commander, General Cisneros, instructed Jim Evetts to activate the family assistance center to handle the influx of casualties and families and to provide support. Evetts immediately established his office at the Road Runner Community Center. Also to help the families of victims, Cisneros opened a military travel assistance section at the San Antonio airport.[51]

Evetts relied upon Rita Dalton, the Army Community Services chief, and her staff. Army Community Services normally operated on an eight-hour basis, Monday to Friday, and provided a variety of assistance, to include relocation, family advocacy, emergency relief, and volunteer support. During an emergency the office was manned twenty-four hours a day. Once notified of the accident, Wilson Apkarian, the director for community and family activities at Fort Sam Houston, and Kathleen Curd, his assistant, joined Evetts, and they worked through

[50] Nolan Memo, 18 Apr 94.

[51] Interv, Col Mary T. Sarnecky with Jim Evetts, 7 Apr 94 (hereafter cited as Evetts Interv); Nolan Memo, 18 Apr 94.

the night getting the assistance center ready to receive the families of the injured soldiers.[52]

Following a well-planned and well-rehearsed guide, used whenever the USAISR burn unit received an influx of burn casualties, Evetts, Apkarian, and Curd hooked up extra phone lines for the use of the families and, in the Road Runner auditorium, set up workstations for the various services. They placed signposts, with directions for family members, at strategic locations and had an 800 line installed for relatives to use to inquire about patients. They also initiated a flow of information from the Womack EOC, compiled phone lists, and began bringing in extra staff.[53]

Staffing the family assistance center was a team effort. The garrison commander provided a duty officer, two paid civilians, chaplains, family advocates, and Army Emergency Relief and PAD personnel. The American Red Cross sent its representatives, and space was set aside for the 82d Airborne Division liaison team. Civilian and military volunteers manned every shift at the center. "So we were all co-located. It really expedited communication," remembered Kathleen Curd.[54]

Volunteers offered their services from day one. Jim Evetts remembered "over 100 phone calls" the first night from people donating lodging, transportation, and time. The family assistance center staff kept a master list of those individuals who offered assistance "so that we could call on them when we needed their help," recalled Linda Thomas, installation volunteer coordinator and community programs manager for Army Community Services. Volunteering was on a rotational basis, so anyone who offered support was "given the opportunity to do so," she said. Volunteers arranged transportation, manned telephones, offered child care, brought in food, and assisted in the center's kitchen. They even provided a listening ear. "We . . . [were] very careful to match our volunteers' experiences and skills to specific needs of the families so that we best use[d] the volunteer support to meet the families' needs," said Thomas. More than 200 volunteers, many of them Army wives or retired military (San Antonio's retired military popula-

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[52] Evetts Interv, 7 Apr 94; Interv, Col Mary T. Sarnecky with Rita Dalton, 7 Apr 94 (hereafter cited as Dalton Interv); Interv, Col Mary T. Sarnecky with Kathleen Curd, 7 Apr 94 (hereafter cited as K. Curd Interv).

[53] Nolan Memo, 25 May 94; Evetts Interv, 7 Apr 94.

[54] Quotation from K. Curd Interv, 7 Apr 94. See also Tab K ("Fort Sam Houston and San Antonio Open Arms to Injured Soldiers and Their Families," Fort Sam Houston News Release, 25 Mar 94) in Scudder Smart Book; Evetts Interv, 7 Apr 94.

tion is the second largest, next to San Diego, in the United States) worked at the center during the emergency.[55]

The Road Runner auditorium also became a home away from home for the families. They gathered for tea, shared emotions only they could understand, received Red Cross comfort packages, and brought in children for day care. They marked their names and hometowns on a map on the wall; two families discovered they lived only 15 miles apart. They picked up free passes to Sea World, the Alamo, and other ventures offered by businesses in town, as well as signed up for the activities they wished to undertake. Easter dinner was also held in the auditorium. "The most incredible thing to see is how the families in the auditorium have come from being individual families to one collective family. They're truly a family unit. And that's what the auditorium was designed to be," said Linda Thomas.[56]

General Claypool took additional steps to help the families of the Fort Bragg soldier patients. He authorized a thirty-day exemption from the surcharge for eating at Brooke's dining facilities, and he provided free supplies of prescription medicines until other arrangements could be made. According to General Steele, Claypool "bent the rules" in the interest of the burn victims and their next of kin.[57]

Helping the families was a San Antonio community effort as well. As the families started arriving, local and area businesses and volunteer agencies provided food and other supplies to the Fort Sam Houston Family Assistance Center. Coca-Cola Bottling Company of the Southwest contributed beverages; Pace Foods, salsa; Frito-Lay, chips; Albertson's, cookies, as well as more drinks and chips; Dunkin Donuts, a variety of donuts; and the United Services Organization, luncheon meat. H-E-B Grocery offered gift certificates for food, and Texas Copy donated a fax machine. The family assistance center received from the garrison exchange overnight guest packets and from the library over three boxes of books plus more than $300 worth of books-of-choice coupons, redeemable at a local bookstore. Finally, the San Antonio Military Family Service Board, which was instrumental in getting the

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[55] First quotation from Evetts Interv, 7 Apr 94; remaining quotations from Interv, Col Mary T. Sarnecky with Linda Thomas, 8 Apr 94 (hereafter cited as Thomas Interv). See also Larry Bingham, "They Are Family," *Fayetteville Observer-Times*, 30 Mar 94, p. 1B.

[56] Thomas Interv, 8 Apr 94.

[57] Quotation from W. Steele Interv, 20 Apr 94. See also Nolan Memo, 18 Apr 94; Claypool Interv, 8 Apr 94.

Chamber of Commerce involved, helped the San Antonio retired military community rally around the accident victims.[58]

By 25 March the Fort Sam Houston Family Assistance Center was assisting nineteen families. Lisa Kelley, who had joined her husband, Sergeant Kelley, on the evening of the twenty-fourth, was in a state of shock after learning about the severity of her husband's condition. She was surprised at how well the Army took care of her, but most thankful. As she later recalled, "I've had everything provided for me that I've needed, down to toothpaste. . . . There was always someone there willing to help—the people at the community center, the Red Cross volunteers, the chaplains, the ACS [Army Community Services] volunteers, . . . the Army liaison team." Linda Thomas remarked on "how incredible it was to witness a post located in one state and a post located in another state literally come together and take care of an immediate need." Fort Bragg also was pleased with the way in which Fort Sam Houston took care of the paratroopers' families.[59]

Public Affairs

Once alerted, the public affairs offices (PAO) of Brooke Army Medical Center, Health Services Command, and Fort Sam Houston joined forces in executing the public affairs annex to the Fort Sam Houston mass casualty plan. They shared information with their operations centers and maintained contact with the public affairs offices of the Department of Defense, Department of the Army, Womack Army Medical Center, the 82d Airborne Division, and the XVIII Airborne Corps. The Fort Sam Houston public affairs officers met at 0430 on 24 March to coordinate assignments and responsibilities in preparation for the arrival of the burn patients. Their goal was to contain the press while providing ample opportunity for coverage.[60]

According to policy, photographs of the patients' arrival were permitted; however, zooming in on their faces was prohibited, to protect

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[58] Tab K and Tab V (Update for 82d Airborne Division From BAMC—82d Liaison Team, 4 Apr 94) in Scudder Smart Book; Dalton Interv, 7 Apr 94; K. Curd Interv, 7 Apr 94.

[59] First quotation from Kelley Interv, 25 May 94; second quotation from Thomas Interv, 8 Apr 94.

[60] Nolan Memo, 18 Apr 94; Interv, Col Mary T. Sarnecky with Cindy Vaughan, 7 Apr 94 (hereafter cited as Vaughan Interv). Vaughan was the chief of media relations in the U.S. Army Medical Command Public Affairs Office.

their privacy and that of their families. By and large, the news media cooperated, and the public affairs officers disseminated timely information, in the form of patient updates and press releases, and arranged additional photo opportunities. The different public affairs offices coordinated all news activities. The reporters were allowed to talk to volunteers from the families, interview physicians and operations officers, attend press conferences in one of Brooke's waiting rooms, and cover the visits of dignitaries.[61]

In general, the military got along well with the reporters, who were mainly from the San Antonio area. Because San Antonio was a military town, most understood the soldier mentality and accepted the ground rules and restrictions involved in public affairs. They also knew that patients came first and news came second. As a result, the military and the press worked as a team on the coverage of the mass casualty at Fort Sam Houston.[62]

Despite the positive relationship, some difficulties were evident. The Brooke PAO was understaffed, considering the volume of public interest in the disaster. Clerical and office support were needed, yet unavailable. Public affairs officers not employed by Brooke occasionally spoke for the hospital, but without the knowledge of the Brooke PAO. Finally, reporters had a tendency to gather outside the family assistance center, which caused traffic jams. Because of the traffic problem, Colonel Nolan later recommended that a media center be established "at the Officer's Club or some other area that would permit more controlled access and alleviate the need for extra military police for traffic control."[63]

Ministry and Pastoral Care

After learning of the accident, Brooke's chief of ministry and pastoral care, Col. Paul W. Dodd, placed all chaplains on alert in anticipation of an influx of burn casualties from Fort Bragg. To oversee Brooke's ministry and pastoral response, Dodd appointed Maj. Michael T. Curd, the senior chaplain clinician, as Team Alpha leader. Curd, who was married to Kathleen Curd of the family assistance center, reviewed the chaplains annex to the hospital's emergency preparedness plan and

[61] Vaughan Interv, 7 Apr 94.
[62] Ibid.
[63] Quotation from Nolan Memo, 18 Apr 94. See also ibid., 25 May 94.



Major Curd

worked out individual assignments and responsibilities. Each chaplain was to support four or five casualties and their families, as well as be on hand at assigned locations to comfort not only the soldier patients as they arrived but also the staff. Chaplains were to perform informal debriefings and spiritual healing whenever and wherever possible.[64]

The ten chaplains of Team Alpha received their assignments from Major Curd at a meeting held at 0745 on 24 March in the Brooke EOC. At 1830 they attended a family support conference in the Fort Sam Houston Family Assistance Center. At the session Lt. Col. Anne Schwartz, the USAISR psychiatric nurse clinician, discussed how to prepare family members for what they were going to see and how to provide them with emotional support.[65]

Fifteen minutes before the arrival of the first C–9, Team Alpha members went to their assigned locations—two in the emergency room and eight in the USAISR burn unit. The casualties were brought to the main hospital, where a chaplain greeted and talked to each injured soldier and the accompanying medical staff. As soon as the patients were littered upstairs, another chaplain debriefed the litter-bearers, "who had never seen people so injured, so burned before," and as each casualty entered a room on the burn ward, another chaplain was there to reassure him and the medics with him. Within one hour every patient had been visited by a chaplain, and the Catholic patients had received the sacrament of the sick. The chaplains continued to visit their assigned patients until they were settled and their arrival

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[64] Nolan Memo, 25 May 94; Interv, Lt Col Iris J. West with Maj Michael T. Curd, 26 May 94 (hereafter cited as M. Curd Interv); After-Action Review, Maj Michael T. Curd, Department of Ministry and Pastoral Care, n.d., sub: Institute of Surgical Research Mass Casualty Operation, 23–31 March 1994, p. 1 (hereafter cited as Curd AAR).

[65] Curd AAR, pp. 1–2.

procedures were completed. The same strategy was followed for the casualties that arrived in the following days.[66]

A chaplain always talked with family members first and then accompanied them to the patient's side. Family members, who wore gowns, masks, and shower caps, were told to touch the casualty and to act normally and positively, if possible, for burn patients "feel ugly, . . . feel totally alone." "They're alienated from the world as they knew it," said Chaplain Curd. Family members were advised not to show their emotions until they had left the patient's room. Once outside, they experienced a considerable emotional release, and the chaplains were there to help them. Curd and other Team Alpha chaplains had been trained to deal with the special problems of burn victims and their families. Military chaplains remained available to family members on return visits to the USAISR burn unit.[67]

Brooke's chaplains attempted to debrief the Fort Bragg soldier patients as soon as possible and attended family debriefings held at the main hospital. Garrison and unit chaplains staffed the Fort Sam Houston Family Assistance Center around the clock on a rotating basis. Also helping were twenty-eight chaplains temporarily at Fort Sam Houston for the trauma and crisis response team training course, which Chaplain Curd was teaching. Ultimately, a network of coordinated pastoral care took place at Fort Sam Houston, with chaplains from the Fifth U.S. Army, the garrison, the Army Medical Department, Fort Bragg, and the 82d Airborne Division participating.[68]

Mental Health

Initial evaluations of the Fort Bragg soldier patients were made difficult by a lack of psychiatric support. The USAISR burn unit had only "one psychiatric nurse," Colonel Schwartz, who "could not handle it all," according to the outspoken Colonel Greenfield. As chief nurse, she made arrangements to have two psychiatric nurses from the Army Medical Department Center and School to help Schwartz in the afternoons and relied on the staffing agency under contract with Brooke to find a third nurse to come in for a few hours in the evenings. Greenfield believed that

[66] Quotation from M. Curd Interv, 26 May 94. See also Curd AAR, pp. 1–2.

[67] As quoted in Larry Bingham, "Chaplain Aids Victims and Families," *Fayetteville Observer-Times*, 31 Mar 94, p. 3A. See also M. Curd Interv, 26 May 94.

[68] Nolan Memo, 25 May 94; M. Curd Interv, 26 May 94; Curd AAR, p. 2.

a mechanism for handling psychiatric evaluations of patients needed to be written into the hospital's emergency preparedness plan.[69]

The combined response of the U.S. Army Institute of Surgical Research, Brooke Army Medical Center, and Fort Sam Houston demonstrated the effectiveness of training, experience, and planning. The highly capable USAISR burn teams and staff members successfully managed the Green Ramp casualties during their medevac flights and during their stay in the burn unit. Although the increased risk of infection due to multiple visitors was a matter of concern, the visits of dignitaries and the presence of the 82d Airborne Division liaison team boosted the morale of both the burn victims and their families. Mass casualty planning guided Brooke's departments and Fort Sam Houston's agencies in responding effectively to the crisis. Chaplains and medical and family support staffs dispensed essential services to the Fort Bragg soldier patients and their families, and public affairs officers afforded opportunities for coverage by the press. Brooke's emergency operations center provided not only accurate and timely information but also coordinated activities with garrison agencies. The survivors benefited from the teamwork in San Antonio, and this kind of dedication marked the sustained treatment ongoing at Fort Bragg and Womack Army Medical Center.

[69] Greenfield Interv, 8 Apr 94.



Honoring the deceased paratroopers. The 82d Airborne Division, as part of its sustained response, held a memorial service on 29 March 1994 at Fort Bragg's Ritz-Epps Fitness Center, where twenty-three helmets, twenty-three inverted rifles, and twenty-three pairs of boots stood at attention on the stage in honor of the fallen soldiers. The emotional ceremony was a time of healing and remembrance for many, as was the division's burying of its own in the following days.

5

Sustained Response

> "This is about the entire community. Adaption to catastrophic events comes in stages over time."
>
> —*Lt. Col. Sherry Conner*

Within days of the Green Ramp disaster Womack Army Medical Center and Fort Bragg began the sustained response. Fort Bragg received visiting dignitaries, kept the press informed, honored the dead, and maintained combat readiness. The multiple emergency operations centers worked around the clock to meet the needs of the severely burned paratroopers and their families. Everyone involved in the accident received some form of counseling. Once their specialized burn therapy was completed, the Fort Bragg soldier patients, but for one, returned to Womack for long-term care.

Morale

Two days after the tragic accident, and still reeling from the shock, Fort Bragg hosted a visit from President Bill Clinton, who toured the crash site and called on the Green Ramp casualties at Womack. Secret Service agents, a White House photographer, and ten White House media personnel accompanied the president on his visit to the hospital wards. Clinton talked to the injured paratroopers for about one hour and then mingled with the crowd that gathered outside the hospital. At a press conference in front of Womack the president spoke of the soldiers' courage and spirit: "I wish everyone in America could see the faces and the eyes and the spirit of these people. They would realize

how fortunate we are to be served by men and women like them. They are so brave and selfless."[1]

Clinton was impressed with the number of soldiers who had received their injuries while helping others. He was touched particularly by the story of the husband and wife team of Lieutenant Altfather and Sergeant Houghton. Presidential attention boosted the morale of everyone—patients, families, and staff. They "were deeply moved by his visit," reported public affairs officer Margaret Tippy. The emergency room chief nurse, Major Horoho, believed that the president's visit had helped members of her staff feel recognized for the important job they had done. The presidential visit also emphasized the fact that the disaster "was a nationally publicized event, and that the Fort Bragg community truly belong[ed] to the American community."[2]

The XVIII Airborne Corps chain of command visited the injured paratroopers and their families as well. General Steele, as the 82d Airborne Division commander, involved himself with his wounded troops, calling on them frequently. He spoke of the phenomenal spirit of American soldiers. They

> will not lie down and quit . . . even when the Lord deals them a blow like this. . . . They do not give up. Soldiers, with their eyes swollen shut and their hands burned and bandaged so you could not touch them, would say to you when you visited: "Airborne all the way, Sir!"[3]

Despite broken legs, a crushed pelvis, and body burns, S. Sgt. Roland A. Souza of the 2d Battalion, 504th Infantry, came to attention in bed when General Steele pinned master parachutist wings on him. To qualify for the wings, Souza was scheduled to make the last of the required sixty-five jumps on the day of the accident. After the tragic incident the Army waived the requirement for the final jump and awarded him his coveted "Master Blaster" wings. Referring to Souza and the other burned paratroopers, Steele said: "That's the spirit of the

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[1] As quoted in Henry Cuningham, "Clinton Visits Crash Survivors," *Fayetteville Observer-Times*, 26 Mar 94, p. A7.

[2] First quotation from Margaret Tippy, Information Paper to Health Services Command PAO and Army PAO, 29 Mar 94, sub: After-Action Report on Womack Army Medical Center Public Affairs Activities Involving Injured Soldiers From Aircraft Crash (hereafter cited as Tippy Info Paper); second quotation from John Valceanu, "President Visits Injured Soldiers," *Paraglide* (Fort Bragg, N.C.), 31 Mar 94, p. 3A. See also Interv, Lt Col Iris J. West with Maj Patricia D. Horoho, 12 Apr 94.

[3] Interv, Lt Col Iris J. West with Maj Gen William M. Steele, 20 Apr 94 (hereafter cited as Steele Interv).



President Clinton speaking at the press conference

people. They're young; they're committed, and they have unique inner strength. Because of their spirit, a lot of them are alive today."[4]

Department of Defense and Department of the Army leaders also visited the disaster victims. On 26 March Secretary of Defense William J. Perry and Army Chief of Staff Sullivan called on the three at Cape Fear Valley Medical Center and the twenty at Womack. They shared words of comfort, which boosted morale. The strong morale of the soldiers, many of whom were anxious to get back to work, impressed Perry. "The kind of spirit they have is incredible. I can't believe how tough they are and how they are bouncing back," he said. The visits of General Dennis J. Reimer of the U.S. Army Forces Command and General Franks of the Training and Doctrine Command, who had lost his leg in Vietnam, also raised the paratroopers' spirit. Fort Bragg public affairs officers arranged press conferences for the distinguished visitors.[5]

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[4] Ibid.

[5] As quoted in Scott Yates, "Defense Chief 'Impressed' by Morale of the Injured," *Fayetteville Observer-Times*, 30 Mar 94, p. 4A. See also Interv, Lt Col Iris J. West with Margaret Tippy, 14 Apr 94 (hereafter cited as Tippy Interv); Steele Interv, 20 Apr 94.

Public Affairs

Fort Bragg's public affairs offices (PAO) continued to keep the press informed. On 26 March the 82d Airborne Division's public affairs officer visited each patient at Womack to learn who would be willing to be interviewed. Three injured soldiers, two male and one female, volunteered. The media event, held in Colonel Timboe's office, "was a very moving experience," said Margaret Tippy. On the same day Tippy arranged for a press conference at the triage site, with the emergency room staff who handled the mass casualty in attendance, and another at the Fisher House, the home away from home for families of the casualties. Two days later the public affairs officer set up an interview for a local newspaper with Altfather and Houghton. Soon after the arrival of the first twenty Fort Bragg soldier patients at the U.S. Army Institute of Surgical Research (USAISR), the Womack PAO received numerous phone calls from the San Antonio media to obtain information on them. Within a week's time, however, the number of phone calls dropped to about fifty a day.[6]

As coverage of the Pope Air Force Base disaster subsided, Fort Bragg's public affairs officers concluded that, by and large, they were successful in their efforts to disseminate timely information to the press and the community. Some issues, however, remained a question mark, and they hoped that the emergency preparedness committee would consider them at its next meeting. Tippy recommended that in future mass casualty exercises public affairs officers assume the role of reporters to "have an opportunity to see how [the process] works." For example, she sensed frustration in others in trying to obtain an accurate account of patient numbers, but explained that "patient accountability is not a priority when people need to be triaged and treated." Tippy also believed that the hospital staff, "from the newest soldiers to the most seasoned civilians," should know how to handle the news media.[7]

During the crisis Margaret Tippy did not talk with the public affairs officers at Pope Air Force Base, Cape Fear Valley Medical Center, and Highsmith-Rainey Memorial Hospital until 25 March, two days after the accident. "Their lines were always busy," she said. Hence, she suggested the establishment of a communications network among all of the

[6] Quotation from Tippy Interv, 14 Apr 94. See also Tippy Info Paper, 29 Mar 94.
[7] Tippy Info Paper, 29 Mar 94.

public affairs offices, both civilian and military. "All the major public affairs offices have to dedicate one line as the PAO [internal communications] line," she said.[8]

Despite the shortcomings, the efforts of the Fort Bragg public affairs offices greatly contributed to the success of the entire mass casualty effort, permitting coverage while protecting the privacy of the soldier patients and their families.

Memorial Service

The last major event that the news media covered was the memorial service, held on 29 March at Fort Bragg's Ritz-Epps Fitness Center to honor the twenty-three deceased paratroopers (*see Appendix*). The 82d Airborne Division had wanted to hold the service at its memorial near the division museum, but inclement weather forced the ceremony inside. The gym also was preferable since the injured paratroopers, some on hospital gurneys, would be in attendance. The deputy G–2 (intelligence officer), Maj. Thomas Gordon, had designed the inside service carefully, making sure it was a success.[9]

Twenty-three helmets, twenty-three inverted rifles, and twenty-three pairs of boots stood at attention on the Ritz-Epps Fitness Center stage in honor of the fallen soldiers, a traditional Army commemoration for the dead. As each name was called, a paratrooper marched up to the stage; halted in front of a helmet, rifle, and pair of boots; slowly saluted; and marched off. The helmets and boots were given to the families after the ceremony. The rifles were returned to the Fort Bragg arms room.[10]

Among the more than 3,500 people crowded into the Ritz-Epps Fitness Center to honor those who had perished were the wounded survivors of the accident. Some walked in, white gauze covering their burned hands and legs. One hobbled in on crutches. A number were in wheelchairs. Several came on hospital beds or gurneys, pushed forward by nurses, family, or friends. The crowd parted to allow them a better view closer to the front.[11]

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[8] Ibid.

[9] Steele Interv, 20 Apr 94.

[10] Henry Cuningham, "Fallen Soldiers Saluted," *Fayetteville Observer-Times*, 30 Mar 94, p. 4A; Martha Quillin, "Fort Bragg Service Honors 23 Dead," *News & Observer* (Raleigh, N.C.), 30 Mar 94, p. 3A.

[11] Quillin, "Fort Bragg Service Honors 23 Dead," p. 3A.

Civilian and military dignitaries attended the ceremony, including Secretary of Defense Perry; General Sullivan; General Merrill A. McPeak, the Air Force chief of staff; and General Wayne A. Downing, commander in chief of the U.S. Special Operations Command. The speakers were General Steele, Colonels McChrystal and Austin, and Perry.[12]

The orators praised the deceased paratroopers' courage and patriotism. Defense Secretary Perry said he came to the ceremony to show the country's appreciation for the sacrifices soldiers were asked to make every day in serving their country. The Green Ramp disaster, he said, "is a harsh reminder of the danger of military service, even in peacetime. . . . America doesn't ask if the All Americans are trained. It doesn't ask if they're ready. It expects them to be. [The soldiers of the 82d] were doing what America expected of them."[13]

The deceased paratroopers were from fifteen states, ranged in age from nineteen to thirty-five, and held ranks from private to captain. Most were veteran jumpers; one was jumping with his unit for the first time. Some gave their lives to save others.[14]

Military officials shared the stage with the 82d Airborne Division chorus, which sang "Last Full Measure of Devotion" and "Hard To Say Goodbye," among other numbers. From opposite corners of the gym two buglers played a particularly sorrowful rendition of taps, one echoing the other's notes. The emotional ceremony honored the worst peacetime loss of life suffered by the division since World War II.[15]

The memorial service provided closure for many of the 13,500 soldiers of the 82d Airborne Division, but not for the subordinate units that suffered casualties. General Steele had decided that the division, and particularly Colonel McChrystal's 2d Battalion, 504th Infantry, should bury its own dead.

It was unusual military procedure to have a battalion bury its own dead in peacetime. But General Steele and his subordinates knew that it was important to give the troops "time to grieve," even though "it was going to take the focus of the battalion for a couple of weeks," said

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[12] "They Came To Honor Their Dead," *Fayetteville Observer-Times*, 31 Mar 94, p. 3E.

[13] As quoted in Quillin, "Fort Bragg Service Honors 23 Dead," p. 3A. The 82d Airborne Division's official nickname is the All Americans, which derives from the fact that during World War I soldiers of the 82d came from all of the States.

[14] Ibid.; Cuningham, "Fallen Soldiers Saluted," p. 4A.

[15] Quillin, "Fort Bragg Service Honors 23 Dead," p. 3A.



General Steele visiting with families and with Spc. Anthony B. Davis and his father after the memorial service





Pallbearers at the Fort Bragg Cemetery

Colonel McChrystal. Hence, the division tried to have the deceased soldier's own platoon or at least company bury him. The burial detail included a firing party, bugler, escort, and pallbearers. McChrystal attended every funeral in his battalion. A squad leader handed the battalion commander the flag from the casket, and he handed it to the parents. Escorting bodies around the country to their final resting place occupied the division until 9 April.[16]

Combat Readiness

Even with its forty-four casualties, the 2d Battalion, 504th Infantry, never lost its combat readiness. "We're trying to deal with it in a very logical sequence," Colonel McChrystal said the day of the accident. "We're a combat unit. We have a mission. Everybody keep your eye on the ball, and we will continue to go forward." The unit was one of the 82d Airborne Division's nine infantry battalions "that rotate responsibility to be first in line for rapid deployment."

[16] As quoted in Sean D. Naylor, "Driving On: Battalion Honors Its Dead, Braces for Action," *Army Times*, 11 Apr 94, p. 14. See also Steele Interv, 20 Apr 94.

According to McChrystal, the battalion, despite its losses, could deploy within six hours.[17]

Part of being ready to deploy was knowing how to reorganize at short notice. Soldiers were able to step forward to fill leadership positions at a higher level. "You are always one more deep than you think. Behind every team leader, there's a specialist that can step in," said Colonel Schmader, the 3d Brigade commander. On 24 March replacements started to arrive from the 82d Replacement Detachment, rather than from other division units. Four days later the 2d Battalion, 504th Infantry, was redesignated DRF–2 (Division Ready Force–2), the Army's second battalion to deploy in an emergency. Despite its losses the battalion was placed on a high alert status, "a testament, say its leaders, to their soldiers' indomitable will to 'drive on' in the wake of the tragedy."[18]

Colonel McChrystal credited his battalion's ability to recover in the face of tragedy to the support his soldiers received from the chain of command, family groups, and the community, but especially to excellent training. Training had been made as realistic as possible. "The things you learn in training are what you do in war, and that is exactly what happened in the tragedy," said Command Sgt. Maj. Stevenson Cuffee, the battalion's senior enlisted soldier. Soldiers were trained to continue in their mission after combat. The battalion's command and staff group experienced "remarkably little turbulence." According to McChrystal, "this stability was absolutely a factor in the battalion's ability to cope with the tragedy." Most casualties were from the enlisted and noncommissioned officer ranks and included many sergeants. Despite losses, the battalion retained its unit cohesiveness and teamwork.[19]

On 6 April, two weeks after the accident, McChrystal's and Austin's battalions were the first two units to jump in an emergency deployment readiness exercise (EDRE), a large, complex maneuver that involved thirty-five Air Force aircraft and sixty helicopters. According to General Steele, the battalions were "right back into what they are here

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[17] As quoted in Henry Cuningham, "Battalion Remains Ready To Fight Despite Crash Losses, Leader Says," *Fayetteville Observer-Times*, 31 Mar 94, pp. 1A, 4A.

[18] First quotation as given in ibid., p. 4A; second quotation from Naylor, "Driving On," p. 12. See also Interv, Maj Christopher G. Clark with Col John J. Marcello, 11 Apr 94.

[19] As quoted in Naylor, "Driving On," p. 12.

for—what they are in the Army for." Participating in the exercise helped the soldiers to move beyond the tragedy.[20]

Command and Control

The installation EOC and Womack EOC remained open for nearly a week following the Green Ramp disaster. They shut down on 29 March, the day of the memorial service. The division EOC at Womack continued to operate twenty-four hours a day for about five days. After the patients were consolidated and moved up to Ward 6A, the center relocated to the ward and stayed there until about 8 April. From then on, Colonel Stansfield coordinated assistance to families and monitored the status of patients from his office at division headquarters.[21]

Mental Health

To heal emotional wounds, Fort Bragg's mental health professionals conducted formal debriefings. Strong emotional reactions to abnormal situations, psychiatrists believed, were best handled by people talking about their experiences with others who had gone through the same thing. The 1985 air crash at Gander, Newfoundland, in which 236 members of the 101st Airborne Division (Air Assault) perished, had taught the Army that "it doesn't work to have people with different uniforms, with different patches, with . . . not knowing what's going on," conduct the debriefings, said Colonel Plewes, Womack's psychiatry and neurology chief. Hence, Fort Bragg used its own mental health resources, which were considerable. They included the 82d Airborne Division's mental health section; the 44th Medical Brigade's 528th Medical Detachment (Combat Stress); the U.S. Army Special Forces Command; Womack's Department of Psychiatry and Neurology; and the 261st Medical Battalion (Area Support), with about six 91C mental health technicians. Although the 82d was primarily responsible for debriefing troops, other Fort Bragg mental health specialists and chaplains assisted. Womack's social workers and chaplains dealt primarily with family issues, and the nearby

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[20] Steele Interv, 20 Apr 94. The EDREs are part of the XVIII Airborne Corps' ongoing training program to maintain its ability to deploy an airborne task force into combat without prior notice.

[21] Interv, Lt Col Iris J. West with Lt Col Randy Stansfield, 12 Apr 94.

Rumbaugh Child and Adolescent Mental Health Clinic took care of the emotional needs of adolescents and children.[22]

Formal critical incident stress debriefings began on the afternoon of 24 March. Four teams, consisting of two individuals each, met with the soldiers of the 2d and 4th Battalions, 504th Infantry, divided into small groups. The debriefings lasted between thirty and sixty minutes. Within seventy-two hours every soldier involved in the accident had attended at least one session. Debriefings continued on a daily basis for about a week. By then, the mental health specialists had debriefed forty-nine separate units and about 500 troops.[23]

The debriefings were cathartic experiences, where the soldiers shared information about their location at the time of the crash, what they saw, and what they felt. Psychiatrists were able to differentiate between normal and abnormal reactions to trauma and identify those who were not coping well. The latter often were individuals who had experienced an earlier trauma but had never been debriefed, and thus the Green Ramp episode rekindled their pain. Psychiatrists also offered special counseling to soldiers who witnessed the accident and were not hurt, but who felt guilty for having been spared.[24]

Therapy for the soldiers came in other forms as well. Colonel Plewes believed that the memorial service "shore[ed] up their mores, as it were." Ceremony and ritual also provided closure. Colonel McChrystal's personal therapy was to focus on the nearly 620 paratroopers in his battalion who were not killed and who needed a commander.[25]

The psychiatrists decided to take the soldiers back to the crash site as therapy, especially since many expressed interest in returning to Green Ramp. Unit commanders and hospital nurses worked together to organize the effort. One week after the accident, the soldiers returned

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[22] Quotation from Interv, Lt Col Iris J. West with Lt Col John W. Plewes, Maj Steve Knorr, and Maj Michael L. Russell, 13 Apr 94 (hereafter cited as Plewes, Knorr, and Russell Interv). Knorr was a psychiatrist in the 82d Airborne Division, and Russell was Womack's psychological services chief. See also Michael L. Russell, "Psychological Response to the Green Ramp Incident," n.d., pp. 3–4. The U.S. Army Center of Military History has in its custody a collection of documents on the Gander crash.

[23] Plewes, Knorr, and Russell Interv, 13 Apr 94; Russell, "Psychological Response," p. 16.

[24] Plewes, Knorr, and Russell Interv, 13 Apr 94; Ruth Sheehan, "Many Crash Survivors Suffer Severe, Life-Threatening Burns," *News & Observer* (Raleigh, N.C.), 25 Mar 94, p. 16A.

[25] Naylor, "Driving On," p. 13; Plewes, Knorr, and Russell Interv, 13 Apr 94; Interv, Lt Col Iris J. West with Lt Col Stanley A. McChrystal, 22 Apr 94.

to Green Ramp. As far as Colonel Plewes could tell, no one was retraumatized. The paratroopers were supportive of one another and seemed to handle well the visit to the crash location.[26]

Womack's mental health specialists took care of hospital staff. Colonel Plewes gave top priority to debriefing emergency room and operating room personnel, followed by nurses on the wards that received the injured. Formal critical incident stress debriefings for hospital staff began two days after the accident. Psychologists emphasized the normalcy of the painful feelings and responses to a tragedy like Green Ramp. After attending a session, Major Light, who helped to triage the casualties, shed her initial skepticism and reported, "Talking about what happened is crucial." Psychiatrists and hospital chaplains contacted pathologists conducting autopsies in the morgue to offer encouragement. Hospital custodial staff, who had cleaned up an excess of blood and debris after emergency treatment, also received debriefings one week after the incident.[27]

The families of the victims received formal debriefings and individual counseling from chaplains and social workers at Womack's Weaver Conference Room or the family assistance activity in the Fort Bragg Community Center. Major Clark, the surgeon of the 82d, coordinated with the Rumbaugh Clinic on debriefings for adolescents and children because, according to Colonel Plewes, the division "likes to take care of its own." Counselors also visited the Fayetteville schools and allowed the youth to tell their classmates how they felt. Lt. Col. Sherry Conner, a social worker, understood the healing process, stating that "adaption to catastrophic events comes in stages over time." Colonel Plewes reported that with each patient and family he tried to show that the accident, "while tragic, [was] just one event in the person's life."[28]

Womack kept its outpatient psychiatric clinic opened on the weekend to conduct individual debriefings or perform crisis intervention. Handouts on stress and trauma were available. Formal debriefings

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[26] Plewes, Knorr, and Russell Interv, 13 Apr 94.

[27] Interv, Lt Col Iris J. West with Maj Dawn Light, 21 Apr 94 (hereafter cited as Light Interv); Plewes, Knorr, and Russell Interv, 13 Apr 94; Memo, Maj Keith I. Jones, Chaplain, WAMC, to Chaplain, U.S. Army Medical Command, Fort Sam Houston, Tex., 6 Apr 94, sub: WAMC MASCAL AAR.

[28] First quotation from Plewes, Knorr, and Russell Interv, 13 Apr 94; second and third quotations as given in Sheehan, "Many Crash Survivors," p. 16A. See also Light Interv, 21 Apr 94; Interv, Lt Col Iris J. West with S Sgt Michael T. Kelley and Mrs. Lisa Kelley, 25 May 94.

ended about one week after the accident, although counselors continued to be available for anyone who still needed to talk.[29]

Chaplains directly immersed in the response were debriefed with those immediately involved on Green Ramp. Mental health specialists and chaplains in a support role talked to each other about their experiences during debriefing sessions, which was itself a form of debriefing. Colonel Plewes found it difficult to erase the memories of the casualties screaming when he tried to administer intravenous fluids into their burned skin. Talking about it helped him to process the experience.[30]

Fort Bragg's mental health professionals, chaplains, and social workers had come together to help the Army community deal with the Green Ramp disaster. At "businesslike meetings" they divided up the work load and shared resources. Formal critical incident stress debriefings became "cooperative and multidisciplinary" undertakings, providing opportunities for psychiatric, social, and spiritual healing. Margaret Tippy remembered Colonel Plewes saying: "Everybody worked together," handling the emotional needs of people involved in the accident. Tippy added: "It wasn't personality driven. It wasn't ego driven. It was mission oriented and mission focused and that was wonderful."[31]

Patient Care

The Green Ramp casualties who remained at Womack received medical care commensurate with their injuries, with most requiring physical therapy that usually commenced about twenty-four to thirty-six hours after injury. Col. Jack W. Briley, Womack's physical therapy chief, therefore, had a day to organize his response. He reviewed his burn slides from his burn lectures and had an in-service seminar on burn care, as well as a review of procedures and precautions, blood-type transmission, and other techniques. With forty to sixty patients requiring hydrotherapy, wound cleaning, and wound healing, the physical therapy chief increased his burn teams from two to four and then to five, making use of enlisted assistants; obtained debriding instruments, Silvadene, wrappings, gloves, gowns, goggles, and other supplies; and later expanded two occupational therapy stations to four,

[29] Plewes, Knorr, and Russell Interv, 13 Apr 94.

[30] Ibid.

[31] First two quotations from Russell, "Psychological Response," p. 10; third and fourth quotations from Tippy Interv, 14 Apr 94.



Making a fist with a burn victim's hand

with occupational therapists and technicians on loan from the 28th Combat Support Hospital. Seeing inpatients in the mornings and outpatients in the afternoons, the therapists remained busy for several weeks and their supplies adequate. Colonel Briley, wondering whether a civilian medical facility could have handled the numbers he saw, reflected on his successful response:

> I think the experience of people being in the military and the military type of environment just teaches us how to react to these type of situations. Everybody pulled together. Everybody learned and the experience validated that we could do it. Our normal physical therapy load was very supportive of our demands.[32]

By early April the Fort Bragg soldier patients, having completed a series of skin grafts and surgeries, started to return to Womack. The Department of Physical Medicine and Rehabilitation at Womack provided follow-up care to the injured paratroopers on an outpatient basis, coordinating the results of their visits with Major Mozingo at the USAISR burn unit or Dr. Peter Peterson at the Jaycee Burn Center. The rehabilitation staff made sure that the grafts remained complication-free, without infections at the graft site or the donor site. To maintain

[32] Interv, Maj Christopher G. Clark with Col Jack W. Briley, 14 Apr 94.

range-of-motion and functional use of wrists and hands, patients received daily one-on-one therapy for one to two hours, but sometimes for only thirty to sixty minutes because of staff shortages, and also periodic remeasuring and fitting of compression garments to control swelling and facilitate the healing process. The department held an interdisciplinary burn clinic on Friday mornings in the basement of the clinical wing of the main hospital and consulted with surgery, orthopedics, occupational therapy, and other services on an individual patient basis.[33]



Wrapping a burned hand

Burned soldiers, except those with small superficial burns, "could expect to be on some type of physical profile for a minimum of one year," said Colonel Jones, Womack's deputy commander at the time of the accident. Most received health profiles authorizing limited duty obligations on a one- to three-month basis. Those with severe scarring and restricted motion might receive permanent duty limitations, depending on the results of the healing process.[34]

The Last Victim

Unit cohesiveness had helped the Fort Bragg soldier patients to endure surgery, pain, and depression while undergoing treatment at the USAISR burn unit in San Antonio. They cheered each other up, refus-

[33] Ibid.; Memo, Maj James R. Brown, Chief, Occupational Therapy, WAMC, to Dep Cdr for Clinical Services, WAMC, 4 May 94, sub: Pope Air Force Base Mass Casualty; Memo, Carolyn MacDonald, Chief, Physical Medicine and Rehabilitation, WAMC, to Dep Cdr for Clinical Services, WAMC, 12 May 94, sub: Occupational Therapy Support of MASCAL Patients; Memo, Maj James R. Brown to Dep Cdr for Clinical Services, WAMC, 10 Jun 94, sub: PAFB Mass Casualty Patients.

[34] Memo, Col Stephen L. Jones, Dep Cdr for Clinical Services, WAMC, to Unit Cdrs, 9 Jun 94, sub: Medical Care for MASCAL Burn Patients.

ing to let anyone succumb to self-pity. Their efforts probably were instrumental in keeping alive one particular burn victim.

Spc. Martin "Marty" R. Lumbert, Jr., of the 2d Battalion, 504th Infantry, was standing next to a short cement wall, topped by a chain link fence, when the crash occurred. Unable to outrun the fireball as it rolled through the staging area, he crouched down by the wall, instinctively assuming a fetal position and covering his face with his hands. Within minutes he was on fire, with his back, legs, and hands burned severely.[35]

Lumbert arrived in San Antonio on 30 March with the last group of Fort Bragg soldiers to leave Womack Army Medical Center. During the almost seven months he was at the USAISR burn unit, he received twenty-eight graftings, each one taking four to six hours to complete. Because of the extent of his injuries on 88 percent of his body, his head was the only donor skin site. Additional suffering included amputations of both legs and all fingers; only part of his left thumb remained intact. Nevertheless, he learned to write and to feed himself, for his fellow soldier patients would not let him give up.[36]

Hope Ramirez, Lumbert's mother and a registered nurse, was dissatisfied with the cleanliness of her son's room and the medical attention he received during the first few weeks. Concerned about infection, she complained to the USAISR staff about the cleanliness of his bed and its surroundings and the procedures used for treatment. Mrs. Ramirez liked the young doctor who treated her son, but was disappointed that he was not receiving one-on-one care from a more experienced burn specialist, considering his extensive injuries. She tried unsuccessfully to have him transferred to a private burn center in California, believing that he could receive the special medical attention warranted by his condition at a facility employing more modern techniques and having more up-to-date and sanitary wards than at the institute. Colonel Pruitt, the USAISR commander, refused to transfer Lumbert on the basis that he would not be able to grant the same request to other soldiers at the burn unit.[37]

Ten percent of the burn victims' families complained about the procedures or the environment at the USAISR burn unit. They may have

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[35] Telephone Interv, Mary Ellen Condon-Rall with Hope Ramirez, 26 Oct 95 (hereafter cited as Ramirez Interv). Ramirez is the mother of Specialist Lumbert.

[36] Ibid.; Interv, Mary Ellen Condon-Rall with Sgt Christopher J. Burson, Sgt Jacob T. Naeyaert, Jr., and Spc Michael P. Fletcher, 2 Aug 95.

[37] Ramirez Interv, 26 Oct 95.

been angry and frustrated because their sons were so badly injured, and they could do little to help them—other than to complain—a way to handle stress, especially when a loved one is near death. Although 90 percent of the families seemed satisfied with the USAISR response, the complaints of Mrs. Ramirez and the other families became a matter of record in the treatment of the Green Ramp casualties.



Specialist Lumbert

The magnitude of this task cannot be overlooked. Pruitt's staff had to care for forty-three Fort Bragg soldier patients with second- and third-degree burns. The majority suffered burns on more than 15–45 percent of their bodies, one on 70 percent, and Lumbert on 88 percent of his body. Several also had traumatic body injuries, such as amputated limbs. The USAISR burn unit was understaffed and overworked during most of the treatment period. Staff members generally believed that their burn care was successful and that their procedures were consistent with accepted practice. As in most tense situations, explanations—when time permitted—might have helped to clarify perceptions on both sides.[38]

Despite her criticism of the USAISR burn unit, Hope Ramirez was thankful to the Army for providing her with a place to live and for paying the first three months of rent until her husband, who had moved to San Antonio to be near his wife and stepson, found employment. She was pleased with the family support system at Fort Sam Houston, even though she remained displeased with some of the USAISR procedures.[39]

The first Fort Bragg soldier patient was discharged from the USAISR burn unit on 4 April. By late June all but Lumbert had left—thirty-four returning to duty, four transferring to rehabilitation facilities, and four going on convalescent leave. The Brooke Army Medical

[38] Casualty List, Patient Administration Division, BAMC, 1 Apr 94, sub: Status of Fort Bragg Burn Patients.

[39] Ramirez Interv, 26 Oct 95.

Center's emergency operations center closed down, and the Fort Sam Houston Family Assistance Center reverted to Army Community Services. In mid-July the USAISR plastic surgeons and occupational therapists visited Womack to evaluate the soldier patients and consult with specialists about reconstructive surgery. After this visit USAISR occupational and physical therapists continued to exchange information with their counterparts at Womack regarding the rehabilitation of the Fort Bragg paratroopers.[40]

Specialist Lumbert remained at the USAISR burn unit until October, when he was transferred to a private rehabilitation center in San Antonio. He died on 3 January 1995 at a Methodist hospital near Fort Sam Houston. Lumbert's death brought to twenty-four the number of soldiers fatally injured in the disaster on Green Ramp.[41]

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[40] After-Action Report, U.S. Army Institute of Surgical Research, n.d., sub: Response to Pope AFB Accident, p. 11.

[41] Ramirez Interv, 26 Oct 95.



Sergeant Kelley and his wife Lisa. One year later Kelley, the most severely burned survivor of the Green Ramp disaster, and his wife decided to face the future without bitterness or regret, believing that life still had much to offer them.

6

One Year Later

"Life goes on, but no one forgets the crash at Pope."

—*Kim Oriole*

The Green Ramp survivors found themselves on an emotional roller coaster over the twelve months since the accident. In attempting to reconcile their lives, they faced difficult periods of mental and physical adjustment. A few marriages had not weathered the crisis, and those who thought they would return to a military career had to accept the fact that they would not. Some felt angry about what had happened to them, consumed by their emotions and their physical pain. And compounding their pain was the grief they experienced when they thought about their friends who had perished.[1]

Many of the victims, however, were stronger since the accident. They had discovered previously untapped inner resources. Determination and resilience abounded. Some who had been told they would never walk again now were on their feet and back at work. No longer able to be infantrymen, they assumed new military occupational specialties or new careers in the private sector. They established fresh priorities. Families and friendships became more important. Paratrooper support of one another, which had always been good, reached a new high. The Green Ramp disaster had proved that the troops could count on one another in time of need.[2]

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[1] Katherine McIntire Peters, "Surviving: Here's How It's Done," *Army Times*, 27 Mar 95, pp. 10–12.

[2] "Crash Survivors Carry On With Lives After Pope Tragedy," *Paraglide* (Fort Bragg, N.C.), 23 Mar 95, p. 1A.

The Survivors

In March 1995 the Green Ramp survivors could be seen around Fort Bragg in their battle dress uniforms, going to work. They wore special burn dressings, gloves, and other protective garments. Some awaited follow-up surgeries or attended occupational therapy sessions to get scarred joints and muscles moving again. Twenty-two were still in need of medical treatment.[3]

Lt. Judson "Jay" P. Nelson, Jr., of the 2d Battalion, 504th Infantry, was one of those soldiers. With burns on his back, legs, and hands, he had undergone five skin grafts and ten other surgeries, enduring nearly unbearable pain. The key to his survival was his refusal to quit. "I just grit my teeth and . . . just try to gut it out," recalled Nelson, hoping each time to be able to "just hold on a little bit longer." At age twenty-four, Nelson had to learn again how to walk and how to feed himself. A year later he needed more surgery. "Scar tissue pull[ed] his left thumb back to a strange angle." Cold weather brought on stabbing pains in his hands, and his back and legs itched. No longer able to be a foot soldier, Jay planned to enter law school in the fall and become an Army lawyer. Meanwhile, he volunteered to counsel burn victims in the Fayetteville area.[4]

Spc. Anthony "Tony" B. Davis of the 2d Battalion, 505th Infantry, had lost a left leg and shattered a kneecap as a result of the explosion. He considered himself luckier than the soldiers who were burned. "They're the ones who were really bad," he said. Some of the dead and severely burned troops had been sitting next to him on Green Ramp. Therapists at Walter Reed Army Medical Center taught him how to walk with a prosthesis. Four or five months passed before he could walk well. Nearly a year after the accident Davis, with his maroon beret cocked to one side, was observed jauntily striding across Fort Bragg with no problem.[5]

Like Davis, Pfc. Jason A. Savell of the 2d Battalion, 504th Infantry, who was burned on over 43 percent of his body, had lost a leg. But his spunk and determination never waned. Twelve months later Savell was active in sports—basketball, racketball, skydiving,

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[3] Ibid.

[4] First two quotations as given in Peters, "Surviving," p. 10; third quotation from Larry Bingham and Kim Oriole, "A Battle To Survive," *Fayetteville Observer-Times*, 29 Jan 95, p. 7A.

[5] As quoted in Bingham and Oriole, "Battle To Survive," p. 7A.

and rappelling—and had earned his second Green Belt in Tae Kwon Do. He planned to attend Midwestern State University in Texas in the fall. The accident made him realize that he was not "invincible" and that "life [was] precious." He had been the last injured soldier to leave the hospital alive.[6]

Near the one-year anniversary of the crash Spc. Juan C. Fender of the 2d Battalion, 159th Aviation, who suffered burns on his back and hands, underwent surgery "to have tissue expanders placed in his back, which [would] hopefully stretch his skin enough to the point where the extra skin [would] be used to cosmetically repair his back." He continued to receive occupational therapy to increase the strength and movement in his hands. Fender chose to leave the Army, return to his native town of Lexington, Kentucky, and become an occupational therapist.[7]

Sergeant Burson during his recovery had decided to pursue what he deemed would be a satisfying career as an occupational therapist. His rehabilitation was steady but slow. He walked with great stiffness, and "his joints 'lock[ed] up' in cold weather." Burson continued with therapy at Womack several mornings a week to exercise and strengthen his burned legs and hands, trying to adjust "to his new body." This "new body," he judged, would impede his ability to perform effectively as a unit leader. If he could not do what his troops could do, he would not stay in the Army.[8]

Because of their hospital experience, three 2d Battalion, 504th Infantry, soldiers were similarly inspired as Fender and Burson to enter the medical field after leaving the Army. Spc. John R. Fagan, who underwent a number of major operations during his six-month stay at the Naval Medical Center, Portsmouth, Virginia, was making plans to attend veterinary school; Pfc. Jimmie L. Mabin, a survivor of second- and third-degree burns on his body, especially his face and hands, hoped to study nursing; and Spc. Michael P. Fletcher, because of his newly found admiration and respect for the many medics who had

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[6] As quoted in Kim Oriole, "Life Goes On," *Fayetteville Observer-Times*, 23 Mar 95, p. 1A.

[7] "One Year Later Four Paratroopers Tell About Survival," *Paraglide* (Fort Bragg, N.C.), 23 Mar 95, p. 6B.

[8] As quoted in Peters, "Surviving," *Army Times*, 27 Mar 95, p. 11. See also Interv, Mary Ellen Condon-Rall with Sgt Christopher J. Burson, Sgt Jacob T. Naeyaert, Jr., and Spc Michael P. Fletcher, 2 Aug 95 (hereafter cited as Burson, Naeyaert, and Fletcher Interv).



Specialist Fagan



Private Mabin

helped him to cope, wanted to be a medical professional but was still undecided as to which field.[9]

"The one thing that truly amazed me was that as damaged as all these soldiers were, they recuperated well and bounced back," said Lisa Kelley. "I think that has to do with their mindset and the training they've received." One year after the accident Lisa's husband, Sergeant Kelley, the most severely burned survivor, whom doctors had classified as "wheelchair-bound," was on his feet and walking. He was receiving physical therapy at Womack to improve movement in his legs and was preparing for the future. No longer able to have a career in the Army, Kelley planned to return to college and become a history teacher.[10]

Twelve months after the tragedy the Green Ramp survivors were coping with their mental and physical scars. Although it was difficult to put the crash behind them, they found that they thought about it less and less as time passed. They became more philosophical, believing they had been given a second chance to do something else with their lives. Some casualties retired from the military; some returned to

[9] "One Year Later," p. 6B; Burson, Naeyaert, and Fletcher Interv, 2 Aug 95. Fletcher was promoted in September 1994.

[10] As quoted in Jeanine M. Dubnicka, "Soldier Defeats Death," *Paraglide* (Fort Bragg, N.C.), 23 Mar 95, pp. 1B–2B.



Specialist Fletcher (left) with his friend Cpl. Overton R. Hall III

school. Most of the injured, however, stayed in the Army and the 82d Airborne Division.[11]

Effect on Planning

All organizations affected by the Green Ramp tragedy tried to learn from the incident.[12] A review of current mass casualty (MASCAL) reception plans at Fort Bragg and Fort Sam Houston show that improvements were made as a direct result of the Pope Air Force Base

[11] "Crash Survivors Carry On," p. 1A.

[12] The Air Force conducted its own investigation into the causes of the Pope Air Force Base crash. The study identified "multiple causes for the midair collision," faulting air traffic control for the "majority of errors." Although the pilot was partly to blame because he did not "see and avoid and stay well clear of the mishap C–130," as required by Air Force regulations, there were extenuating circumstances. The pilot testified that he did not see the C–130; however, after the control tower had made him aware of its presence, he began executing a low approach, when the collision occurred. Two Air Force officers involved in the crash were relieved of duty and transferred to other jobs. Three enlisted men also were disciplined. See Rpt, Col (USAF) Vincent J. Santillo, Jr., n.d., sub: Aircraft Accident Investigation.

accident. Womack's emergency preparedness plan calls for the establishment of a news media site at Fort Bragg's officers club, a crisis intervention/de-stress and discharge area in the Department of Psychiatry and Neurology, and new critical care pre- and postoperative stations in to-be-determined hospital space, as well as for assistance from other installation medical units. Womack and Cape Fear medical authorities, responding to one of many recommendations, had a dedicated line between their respective emergency rooms installed. During the October 1995 sniper incident, in which eighteen soldiers were injured, three fatally, Womack and Cape Fear medics used the dedicated line to coordinate their emergency response.[13]

Recommendations from Womack's public affairs officer, Margaret Tippy, made shortly after the Pope Air Force Base crash, were also implemented. Public affairs "players" from other Fort Bragg public affairs offices participated in a MASCAL exercise during the summer of 1995—to learn how to handle the news media better. In addition, military and civilian public affairs officers in the Fayetteville area created a communications network, using e-mail and fixed and mobile telephones and holding periodic meetings. Improvements in public affairs activities proved highly effective during both the 1995 MASCAL exercise and the sniper incident, reported Tippy.[14]

As a direct result of the disaster on Green Ramp, Fort Bragg produced a response plan for handling mass casualties, which the garrison used during the MASCAL exercise and the sniper incident. The garrison set aside a room for a family assistance center at Gavin Hall, the headquarters of the 82d Airborne Division. Also, the plan calls for the establishment of an installation operations center as the chief command-and-control center, with ultimate responsibility for information flow. The XVIII Airborne Corps emergency operations center would continue to be involved in any crisis.[15]

After the mass casualty Fort Sam Houston's and Brooke Army Medical Center's plans, training, mobilization, and security staffs met

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[13] Womack Army Medical Center, Contingency Operations Planning and Execution System (COPES), vol. 3, Emergency Preparedness Plan (Fort Bragg, N.C., 1996), pp. C-1-1 to C-1-3.

[14] Telephone Interv, Mary Ellen Condon-Rall with Margaret Tippy, 27 Nov 95.

[15] Telephone Intervs, Mary Ellen Condon-Rall with Col Stephen L. Jones, 27 Nov 95, and with Joseph Hibst, 29 Nov 95. Colonel Jones was formerly Womack's deputy commander for clinical services. Hibst was Fort Bragg's deputy director of plans, training, mobilization, and security.

several times to review the San Antonio area casualty reception plan and Brooke's emergency preparedness plan. At these meetings the issues and concerns identified in various after-action reports were discussed so that the garrison and hospital could fine-tune their standard operating procedures and increase their abilities to manage future disasters. Subsequently, the San Antonio Joint Medical Readiness Committee utilized lessons learned from the Pope Air Force Base crash during the national disaster medical system exercises held in September of 1994 and 1995. The committee also incorporated the lessons learned in a revised casualty reception plan.[16]

General Steele's 82d Airborne Division at Fort Bragg was already fine-tuning its procedures. Because of the Green Ramp disaster, the division strongly supported the development of its own crisis action plan. The plan would provide for periodic crisis action exercises and the formation of a crisis action team, composed of chaplains, judge advocates, public affairs officers, medical personnel, and administrative specialists, as well as nongovernmental representatives from, for example, the Red Cross or Army Community Services on an on-call basis. In addition, the plan would formalize standards for memorial services; burial parties, to include unit representation; wills and beneficiaries; panographic dental records; and insurance coverage. The division commander and his crisis action team would train both casualty and survivor assistance officers to be ready to execute their duties during a crisis. These officers must be prepared to answer three key questions asked by nearly all casualties: How are my friends, comrades, buddies, and so forth? Is anyone looking out for my family? How do I communicate with God?[17]

One year after the disaster on Green Ramp the survivors were getting on with their lives. Their memories still stirred strong emotions, though the weight of the tragedy and the feeling of shock had lessened.

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[16] Telephone Interv, Mary Ellen Condon-Rall with Lt Col Gerald Nolan, 28 Nov 95. Nolan, Brooke's inspector general, was formerly the Plans, Training, Mobilization, and Security Division chief.

[17] Telephone Interv, Brig Gen John W. Mountcastle with Maj Gen William M. Steele, 10 Jan 96. In February 1996 the defense authorization bill provided for increased coverage of the servicemen's group life insurance to the maximum of $200,000. Soldiers would have to request less coverage in writing. See Bernard Adelsberger, "Coverage With SGLI Is Hiked," *Army Times*, 12 Feb 96.





Keeping alive the memory with a display at the 2/505th's headquarters and a wreath on Green Ramp

General Shelton, the XVIII Airborne Corps commander, and Maj. Gen. George Crocker, General Steele's successor, jointly decided not to hold a memorial service each year on 23 March. Although the corps, division, and garrison would never forget the tragedy, Shelton and Crocker believed that the best way to honor both victims and survivors was to incorporate the lessons learned from the disaster and the Army's response to it into standard operating procedures and find ways to reduce risks as the All Americans train for and execute their demanding, often perilous missions.[18]

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[18] Telephone Interv, Brig Gen John W. Mountcastle with Maj. Gen. George Crocker, 5 Sep 95.

Conclusion

Implications for Future Crises

> "The issues and concerns identified represent opportunities to fine tune our SOPs and increase our abilities to manage future real world disasters/accidents."
>
> —*Lt. Col. Gerald Nolan*

The Army's response to the disaster on Green Ramp at Pope Air Force Base underscored the importance of not only readiness, resulting from training, planning, and experience, but also unit cohesiveness and teamwork, the outgrowths of leadership. Found more readily in the military community than in the private sector, these factors were the keys that turned an essentially tragic story into a victorious one.

The bravery of the heroes of Green Ramp emanated from an inner strength that was fortified by unit cohesiveness and regular training. Unit cohesiveness, which moves soldiers to fight for each other, rather than for money, the flag, or abstract ideals, propelled the paratroopers on Green Ramp to sacrifice life or limb to save their comrades. They applied the principles of regular training—especially in the areas of tactics, lifesaving, and medical evacuation—in responding to the mass casualty. They performed the way they were trained to perform in combat.

Leadership was evident throughout the response. Officers and noncommissioned officers, commanders, and command sergeants major, supported by their spouses, became personally involved in the welfare of the 130 Green Ramp casualties and their families, as well as those who were not injured but affected by the crash. By taking charge of the response, unit leaders decisively influenced the process.

Being ready for the unexpected was part of Army life. Contingency planning, mass casualty exercises, and the experience gained in

Panama, the Persian Gulf, Somalia, and Honduras enabled Womack Army Medical Center at Fort Bragg to respond effectively to the disaster. It was fortuitous that the timing of the accident, occurring at a change in hospital shifts, provided double staffing. Hospital personnel triaged the Green Ramp casualties, gave them life-supporting treatment, and sent them on to the next level of care within two hours. Medical evacuation crews subsequently transferred thirteen of the burn victims to regional hospitals. Although better labeling and access to crucial supplies would have speeded up emergency room care and the presence of cellular phones would have improved communications, Fort Bragg's medical professionals were essentially prepared to handle the crisis. General Peake's One AMEDD Team—Womack and field personnel who had trained together—made it possible for the garrison to apply vast medical resources.

Fort Bragg's immediate establishment of command and control facilitated timely information flow, casualty accountability, and casualty and family assistance. The presence of XVIII Airborne Corps and 82d Airborne Division personnel at Womack's emergency operations center avoided duplication in tracking casualties. Confusion and parallel efforts in other instances, however, were inevitable because Fort Bragg's organizations—unlike, for example, Fort Sam Houston's burn center—were structured and their personnel trained to respond to multiple contingencies, rather than to specific situations, in peacetime and in war. A generic response plan, with clearly defined responsibilities for the garrison's emergency operations centers and casualty assistance hubs, might have helped a garrison that was crisis instead of mass casualty oriented. But Fort Bragg's agencies threw so many resources into the operation that their efforts, although perhaps less smooth than Fort Sam Houston's response, were ultimately successful.

The family support center at Womack was operating within one hour of the crash. The center, augmented by volunteer workers, arranged for food, housing, transportation, and counseling of the victims' family members and friends. Fort Bragg's various public affairs officers established a cooperative relationship with the press to provide, as one voice, accurate and timely information about the tragedy and, at the same time, to protect the privacy of the Fort Bragg soldier patients and their families. The overwhelming community response to the Green Ramp disaster strengthened the ties between Fort Bragg and Fayetteville, magnifying a powerful resource that the military might utilize in future emergencies.

Training, experience, and planning undergirded the important response of the U.S. Army Institute of Surgical Research, Brooke Army Medical Center, and Fort Sam Houston, all of which were mass casualty oriented. The aeromedical evacuation of the forty-three burn victims from Fort Bragg and Chapel Hill to San Antonio went smoothly under the watchful care of the expertly trained USAISR burn teams. Intensive training and teamwork enabled the USAISR staff to successfully manage the Fort Bragg soldier patients. Two months after the accident only one paratrooper remained critical, while the others were either in satisfactory condition or convalescing at home.

The visits of high-ranking dignitaries boosted the morale of the Fort Bragg soldier patients, but the interruption of patient care and the increased risk of infection due to multiple visitors must be addressed in future mass casualty planning. The presence and assistance of the 82d Airborne Division liaison team, under the leadership of Captain Scudder, improved the morale of not only the injured paratroopers but also their families, thus greatly easing the burden of the USAISR staff. Further, a better mechanism to relieve the staff of the added responsibility of obtaining temporary personnel would have helped.

The Army's commitment to fund and maintain the USAISR burn unit must be credited with lessening the fatality rate of the Pope Air Force Base crash. More importantly, the burn unit continues to provide the expert assistance needed in future contingencies for dealing with large numbers of severely burned casualties.

Brooke's emergency preparedness plan empowered its medical, chaplain, family support, and public affairs staffs to respond quickly and forcefully to the crisis, and Fort Sam Houston's strategy for managing large numbers of casualties guided its agencies, working out of the Fort Sam Houston Family Assistance Center, to provide essential services and to interact with the local community to meet the needs of the burn victims and their families. By supporting and advising everyone involved in the accident, chaplains contributed to emotional and spiritual healing. The public affairs officers' teamwork and cooperative relationship with the press protected the privacy of the Fort Bragg soldier patients and their families while affording opportunities for coverage. Despite the absence of compatible radio systems, information flowed more smoothly from Fort Sam Houston's one emergency operations center than from Fort Bragg's multiple centers.

All told, the response to the Pope Air Force Base accident proved immensely successful, demonstrating the effectiveness of the USAISR's burn management and Brooke's emergency preparedness planning executed in conjunction with Fort Sam Houston's mass casualty strategy.

More than a year after the disaster on Green Ramp, the Army can look with pride on its compassionate, thoroughly professional, and ultimately triumphant response to the worst mass casualty situation in the history of Fort Bragg and Fort Sam Houston. Everyone pulled together and did their best, as people tend to do in a crisis involving mass casualties. The tragedy truly became a triumph of the spirit. But it also confirmed the importance of unit cohesiveness, training, experience, planning, and leadership. Those attributes kicked in and paid off, when most needed. The Army continues to critically examine the issues and concerns that have surfaced in the aftermath of the Pope Air Force Base accident, with the goal of fine-tuning procedures and improving skills to meet future challenges.

Appendix

The Deceased Paratroopers

> "To our fallen comrades, we salute you and vow to carry on in the spirit of your memory."
>
> —*Lt. Col. Lloyd Austin*

Sgt. Alexander P. Bolz, from Karlsruhe, Germany, was born on 21 October 1970. He entered the Army on 5 September 1989. In March 1994, shortly before the accident, he was assigned to the 2d Battalion, 504th Infantry, where he served as a rifle team leader. He is survived by his parents.

Pfc. Tommy J. Caldwell, from Senath, Missouri, was born on 20 March 1972. He entered the Army on 2 September 1993. He was a member of 2d Battalion, 504th Infantry. On the day of the disaster he was to make his first jump with the 82d Airborne Division. He is survived by his wife and two children.

S. Sgt. Daniel Camargo, from Colorado Springs, Colorado, was born on 6 April 1962. He entered the Army on 16 April 1984. A Gulf War veteran, he was a member of the 2d Battalion, 504th Infantry, where he served as a company supply sergeant. He is survived by his wife and five children.

Spc. Bee Jay Cearley, from Bacliff, Texas, was born on 2 May 1966. He entered the Army on 23 May 1990. A Gulf War veteran, he was a member of the 2d Battalion, 504th Infantry. He is survived by his wife and two children.

Spc. Sean M. Dixon, from Montrose, Colorado, was born on 7 August 1973. He entered the Army on 26 August 1991. As a paratrooper assigned to the 2d Battalion, 504th Infantry, he had followed in the

footsteps of his older brother, an airborne soldier stationed in Italy. He is survived by his mother and brother.

Capt. Christopher D. Dunaway, from Mena, Arkansas, was born on 11 April 1967. He received a bachelor's degree in communications from Ouachita Baptist University in 1989. He entered the Army on 16 July 1989. A Gulf War veteran, he was a member of the 2d Battalion, 504th Infantry, where he served as the S–1 (personnel officer) and adjutant. He is survived by his wife.

S. Sgt. Charles W. Elliott, from Hempstead, New York, was born on 9 September 1966. He entered the Army on 30 September 1987. He was a member of the 2d Battalion, 504th Infantry. He is survived by his wife and two children.

Pfc. Paul B. Finnegan, from Bozeman, Montana, was born on 10 February 1974. He entered the Army on 6 July 1992. He was a member of the 2d Battlion, 504th Infantry. He was planning to attend Montana State University following completion of his military service in August 1995. He is survived by his parents.

Pvt. Mark E. Fritsch, from Honesdale, Pennsylvania, was born on 13 February 1975. He entered the Army on 10 August 1993. He was a member of the 2d Battalion, 504th Infantry. He is survived by his parents and two siblings.

Sgt. Gustavo E. Gallardo, from San Diego, California, was born on 7 November 1971. He entered the Army on 18 July 1990. He was a member of the 2d Battalion, 504th Infantry, where he served as a squad leader. He is survived by his mother and sister.

Sgt. Mark G. Gibson, from Eagle River, Alaska, was born on 14 December 1964. He entered the Army on 2 May 1984, completing his first tour with an airborne unit at Fort Richardson, Alaska. He rejoined the Army on 3 February 1993, at which time he became a squad leader in the 2d Battalion, 505th Infantry. He is survived by his wife and child.

Capt. Kenneth J. Golla, from Champaign, Illinois, was born on 11 January 1965. He received a bachelor's degree in business economics from the University of Illinois. He entered the Army on 9 March 1989. He was a member of the Headquarters and Headquarters Company, 1st Brigade. He is survived by his wife and child.

Pvt. Phillip J. Harvey, from Lorain, Ohio, was born on 20 February 1974. He entered the Army on 24 August 1993. He was a member of the 2d Battalion, 504th Infantry. He is survived by his parents.

S. Sgt. James C. Howard, from San Antonio, Texas, was born on 18 April 1966. He entered the Army on 6 May 1986. He was a member of the 2d Battalion, 504th Infantry. He had nearly completed the requirements for his associate's degree when he was killed. He is survived by his wife and two children.

Pfc. Andrew J. Jones, from Vallejo, California, was born on 15 August 1974. He entered the Army on 19 November 1992. He was a member of the 2d Battalion, 504th Infantry. He is survived by his wife and child.

Spc. Martin "Marty" R. Lumbert, Jr., from San Antonio, Texas, was born on 29 September 1972. He entered the Army on 6 June 1991. He was a member of the 2d Battalion, 504th Infantry, where he served in the Headquarters and Headquarters Company. He was the last soldier to succumb from wounds received in the accident. He is survived by his mother.

S. Sgt. Alan D. Miller, from Stockbridge, Georgia, was born on 9 March 1964. He entered the Army on 22 July 1987. He received his associate's degree from the University of Maryland. He was a member of the 2d Battalion, 504th Infantry. He is survived by his parents.

Sgt. Harry L. Momoa, Jr., from Waianae, Hawaii, was born 28 November 1967. He entered the Army on 3 September 1987. A Gulf War veteran, he was a member of the 2d Battalion, 505th Infantry. He is survived by his wife and three children.

Sgt. Gregory D. Nunes, from Centerburg, Ohio, was born on 22 January 1971. He entered the Army on 8 August 1989. He was a member of the 2d Battalion, 504th Infantry. He is survived by his parents.

S. Sgt. Daniel E. Price, from Albany, Georgia, was born on 11 August 1968. He entered the Army on 30 July 1986. A Gulf War veteran, he was a member of the 2d Battalion, 505th Infantry. He is survived by his wife.

Sgt. Waddington "Doc" Sanchez, from Paterson, New Jersey, was born on 14 August 1955. He entered the Army on 8 November 1983. He was a member of the 2d Battalion, 505th Infantry, where he served as a medic. He is survived by his wife and five children.

Sgt. Vincent S. Strayhorn, from Pollocksville, North Carolina, was born on 6 February 1966. He entered the Army on 30 October 1986. A Panama and Gulf War veteran, he was a member of the 2d Battalion, 504th Infantry. On the day of the disaster he was to make his final jump with the 82d Airborne Division prior to being reassigned to Hawaii. He is survived by his wife.

Sgt. James M. Walters, Jr., from National City, California, was born on 30 November 1968. He entered the Army on 9 May 1988. A Gulf War veteran, he was a member of the 2d Battalion, 504th Infantry, where he served as a chemical warfare trainer. He is survived by his mother.

Pfc. Matthew J. Zegan, from Toms River, New Jersey, was born on 8 December 1972. He entered the Army on 1 April 1993. He was a member of the 2d Battalion, 504th Infantry. He is survived by his wife.

Bibliographical Note

Disaster on Green Ramp: The Army's Response is based largely on oral histories and primary documents obtained by the Army history team and myself during research trips to Fort Bragg and Fort Sam Houston in 1994 and 1995. I also conducted several more interviews, in person and by telephone, with participants in the Army's response.

The emergency preparedness plans of Womack and Brooke Army Medical Centers and the San Antonio area casualty reception plan helped me to understand mass casualty strategy. The 82d Airborne Division's casualty status reports and miscellaneous casualty information documents were invaluable in providing statistics on the medical status, extent of burns and injuries, and dates of hospital admissions and departures for each casualty. The sequence of events in the response, including the decision-making process, and recommendations for future crises were best gleaned from the division's redline messages, its crisis action committee minutes, and G–1 historical log, as well as from the after-action reports and briefing slides of participating organizations. The most noteworthy after-action reports came from the XVIII Airborne Corps, Womack Army Medical Center, 57th Medical Company (Air Ambulance), Fort Bragg garrison, 23d Medical Squadron, Brooke Army Medical Center, and U.S. Army Institute of Surgical Research. Capt. James B. Rich's essay, entitled "Memories," and Capt. Gerald K. Bebber's memorandum, together with the numerous oral histories and printed articles, provided vivid accounts of personal actions on Green Ramp and of individual experiences during treatment and recovery.

Printed articles also contributed rich stories of the Army's response at Fort Bragg and Fort Sam Houston. The most frequently cited newspapers were *Army Times*, *Charlotte Observer*, *Fayetteville Observer-Times*, *Fort Sam Houston News Leader*, *Korus Monthly*, *News & Observer* (Raleigh, N.C.), *Paraglide* (Fort Bragg, N.C.), *Philadelphia Inquirer*, *San Antonio Express-News*, and *Tiger Times* (Pope Air Force Base, N.C.). I also used *Soldiers* magazine.

The oral histories are part of the collection of the U.S. Army Center of Military History, and the copies of the primary documents and newspaper and magazine articles are also housed here at the Center. Footnotes, therefore, do not include any repository. Each source is cited in full at first mention in each chapter, and subsequent references in the same chapter are shortened.

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"It was soldiers saving soldiers. Soldiers putting out fires on other soldiers; soldiers dragging soldiers out of fires; resuscitating; giving soldiers CPR; putting tourniquets on limbs that had been severed. . . . Anything they could do to care for their buddies that were more seriously injured they were doing. They can't do that without knowing how. They responded the way they would in combat."

—Maj. Gen. William M. Steele

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