
Profiles in surgery

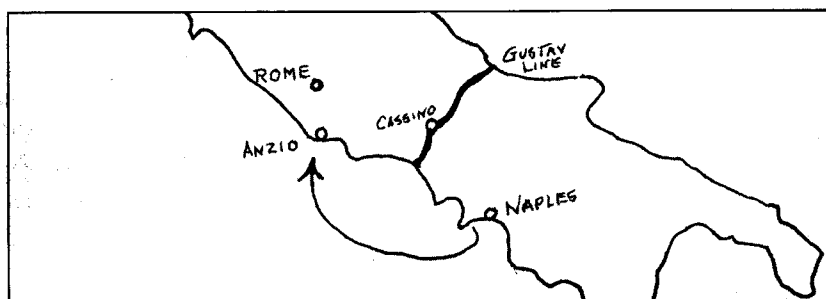
Surgery under stress: World War II, Anzio Beachhead

by George W. Tipton, Sr., MD, FACS, Austin, TX

In 1944, the battle for Anzio Beachhead demonstrated how doctors, nurses, and medical personnel performed their duties under the most stressful, difficult, and appalling circumstances.

In Italy during World War II, the Germans were holding firm at the Cassino-Gustav Line 75 miles south of Rome. Anzio Beachhead was an attempt by Allied forces to bypass that stalemate by sea, outflanking the Germans and capturing Rome. We failed this objective. Instead, we barely held onto our beachhead, a half circle, six by 12 miles in size. It became a desperate defensive battle for us. For more than four long months, the battle continued with attacks and counterattacks.

My organization, the 15th Evacuation (Surgical) Hospital, already had been in three combat campaigns by this time and was now in the middle of the fourth (Anzio). Our unit had replaced the 95th Evacuation Hospital during its first week of activity. The 95th had been decimated when a German dive-bomber, chased by a Spitfire, jettisoned its five anti-personnel bombs directly on the 95th Evacuation Hospital. Among the casualties were 28 dead—including three nurses,



two medical officers, 14 enlisted men, one Red Cross worker, and six patients—and 64 wounded.

We arrived on Anzio two days later and were greeted by a barrage in the hospital area that killed two nurses just yards away.

Earlier, in North Africa, none of us was prepared for the concept of mass casualties or the magnitude of severe and extreme trauma, often involving multiple body systems, brain, thorax, abdomen, bones, and burns. At times these were combined in the same casualty. By the time Anzio was under way, we had learned and had become experienced, competent, and even expert. For the time, we were “state of the art” in quality trauma care. We were a big-time emergency room and trauma center.

In World War II, evacuation hospitals were the first surgical

units in the “chain of casualty care” to do the definitive surgery on battle casualties. We were a MASH (mobile army surgical hospital)-type unit, but we were designated “semi-mobile” (a SMASH unit, as I named it) in that we had enough organic vehicles to allow us to split our hospital and leapfrog our units as the fighting front varied.

Normally, ahead of us in a battle, casualties at the Division level (the fighting troops) were gathered and supported to be transported back to us for definitive surgery.

However, the distances on Anzio were so short, division medical units were bypassed. Casualties were delivered directly to us on the battlefield. On the beachhead, all medical units were side-by-side in a specific area of the battlefield. We gave the Germans our map coordinates, hoping for no hos-

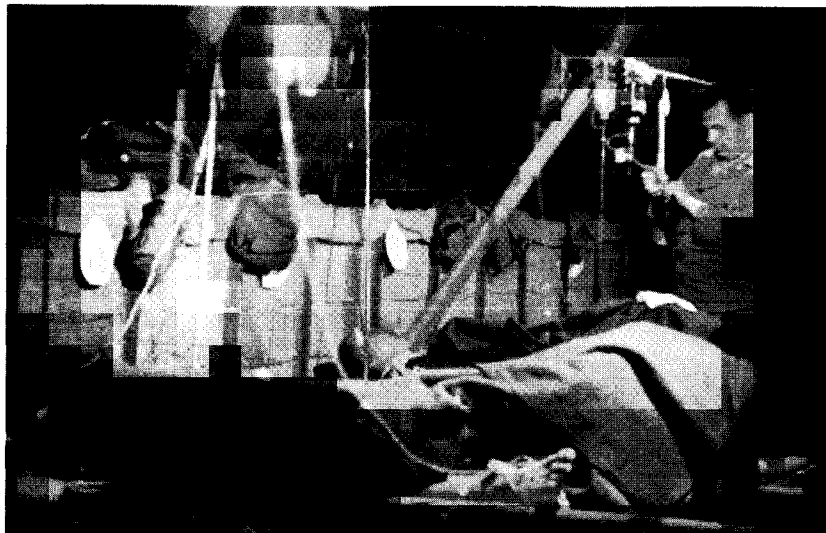
tile fire and depending on their accuracy.

In the hospital area, we had one 750-bed evacuation hospital, two 400-bed evacuation hospitals (including the 15th), one field hospital, one medical battalion, several division clearing stations, and other medical auxiliary units. Thus, there were approximately 2,000 hospital beds (cots) under canvas servicing 80,000-plus troops. All hospitals could expand.

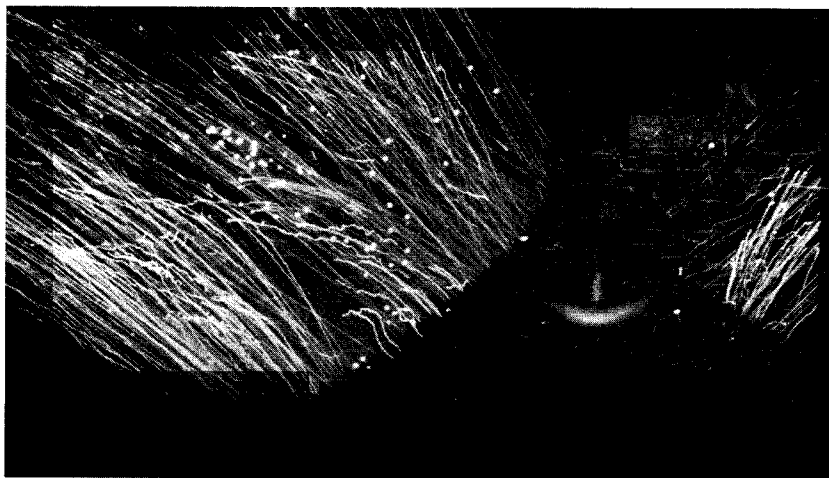
Triage was initiated upon arrival to our unit. The wounded were examined and evaluated. As dictated by the triage, the severely wounded were resuscitated, rehydrated, and transfused. Procedures were initiated for stabilization, and patients were made ready for surgery, preferably with vital signs on the upgrade or normal. We were very aggressive in this endeavor and were remarkably successful.

We had capabilities of almost a full range of operations and medical care for that period of time. Some of our senior surgeons were Fellows of the College, but only one was board certified, and that was in gynecology and obstetrics. All our senior surgeons were experienced and had good training. We were enhanced with auxiliary surgical and subspecialty teams

A primary threat to our safety was our location. We were in the middle of an active and very noisy battlefield. Our own 155 mm "Long Tom" artillery was close on each side. Our 90 mm anti-aircraft artillery was directly in back of us, firing right over our heads. These were used also as tactical artil-



The shock and triage pre-op tent in Anzio, February 10, 1944, to June 8, 1944. Pictured are technician and interpreter Joe Belardini and "a great nurse," Irene Voelker.

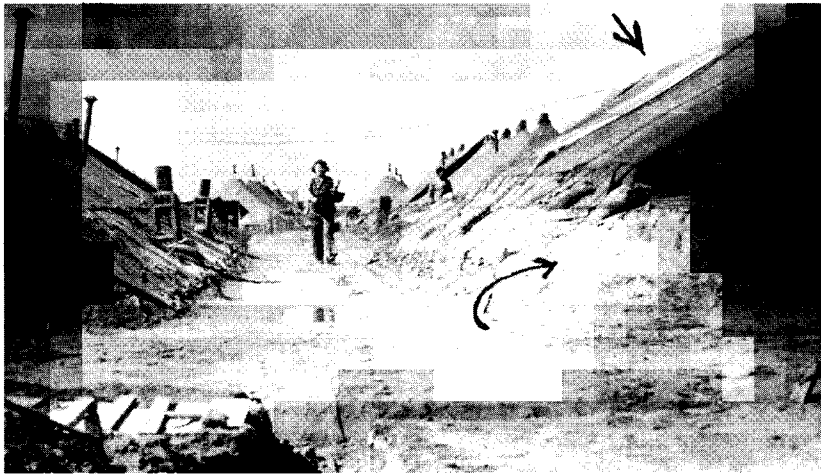


A curtain of fire of 360 degrees, with the Anzio hospitals in the middle. There were 90- and 40-mm anti-aircraft fire exploding in air, causing a "hail" of shell fragments. The 20-mm shells and 50-cal. and 30-cal. bullets did not explode in the air, but were dangerous hail when they fell to ground.

lery. Both were favorite German targets. The 90 mm anti-aircraft cannons behind us had a penetrating whipping muzzle blast,

which was almost painful.

The Germans had various cannons, each with a different noise and killing characteristics.



The OR, dug in with three-foot revetments and hail roof after the shelling on March 22, 1944. The top arrow points to the OR tent, which had a two-inch gum wood roof for hail protection. The lower arrow points to the revetment. Pictured is Lt. Liz Davis, "an especially fine nurse."

Dr. Tipton's diary: Excerpts from 1944

These diary excerpts discuss the moments after a heavy artillery barrage had hit Dr. Tipton's area.

The shelling stopped. I rushed outside and saw light and smoke through holes in ward tents. I ran toward the tents. Something hit my right knee. My knee collapsed. I stumbled and fell flat. "You don't hear the one that gets you." I wasn't wounded. I had hit the "Patients' Latrine" sign as I was running full tilt. (Later I wrote, "You won't be a hero or even get a Purple Heart if you are felled by a latrine sign.")

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I ran into ward #18, where the smoke and holes were. Our fine neurosurgeon, Don Wrork, arrived at the same time. The place was filled with acrid smoke (cordite)—couldn't see five feet ahead.

I got a flashlight and started examining injured men. Don was doing the same. Incidentally, all the patients in that ward seemed dazed, sitting hunched over the side of their cot or on the ground. Very quiet and still. No moaning, no screaming.

Then I went to ward #19 and ran into the ward technician, who said that two men had been killed there but none injured.

I went to the other wards—only one man injured.

No other wards got direct hits, only shell fragments. Then learned that no one in our enlisted men's area was hit. Then that no officers or nurses was hit. Really a miracle!

Final check showed 16 men were hit, four were killed outright, but one man with a hole through his larynx was taken to the OR "STAT." He died on the OR table from irreversible blood loss. Another man with massive thoracoabdominal wounds died just before sun-up. There were more than 30 hits within 100 yards of my tent.

In cool weather, we could hear their muzzle blasts, sounding like kettledrums. The Germans also had 280-mm railway cannons that really disturbed the atmosphere. These cannons were kept in tunnels during the day, doing their deeds at night, adding to our sleep deprivation, as well as to the danger.

During one 24-hour peak period, our own artillery fired more than 20,000 shells. The German artillery answered in kind. The noise factor was stressful.

Another continuous threat were the German air attacks. Early each morning, 15 to 20 Messerschmidt 109s and Focke Wulf 190s would dive-bomb and strafe full throttle directly above us. These tactics were repeated at frequent intervals during the day. We witnessed intense dogfights between these planes against our own Spitfires and P-38s. Several planes of all types were shot down.

At night, Heinkel 111s, Junker 88s, and other large German bomber would drop flares, which seemed to float down endlessly. Flares converted the battlefield into an eerie yellow-orange daylight. Then the German planes dropped bombs and strafed. During these German aircraft raids, our own anti-aircraft defenses were at nonstop peak activity. The noise was extreme and very disruptive. Shells by the thousands flew overhead.

Early on, the Germans mounted powerful counterattacks. Our capture was a distinct possibility. So I buried my German Luger pistol, for which I had traded a valuable bottle of Scotch with an English soldier in North Africa. Also buried were my German



On March 22, 1944, there was a direct hit on the sandbags around the tent of Don Wrook, MD, the neurosurgeon (standing in front). This photo was taken from Dr. Tipton's cot, 15 feet away. Behind Dr. Wrook are Newton Krumdieck, MD (left), and John (Jock) Dundee, MD.

binoculars, or "Dienstglas" (also a trade), my German-made camera, and my diary. I didn't want to be captured holding German equipment.

Initially, we operated with our helmets on, which was very tiring, and only a few surgeons continued this practice. Besides, the patients were unprotected. Later in April, our Army engineers put 2" planking over the operating tents for protection from "hail," or anti-aircraft shell fragments and spent bullets falling to the ground in showers.

While all this was occurring, doctors, nurses, and technicians doing complicated, difficult, and delicate operations in the hospital tents had to remain upright

and continue operating—there was no choice, even though our basic instincts were screaming, "Hit the dirt." If not heroic, it took a lot of dedication and a full measure of courage to work in this kind of environment. There were no foxholes in the operating tents or ward tents.

Inside our tents, we were blind—but not deaf—to what was going on, making it difficult to judge outside explosive noises, incoming and outgoing, usually both.

Sometimes the ground just shook violently, without any subsequent explosion.

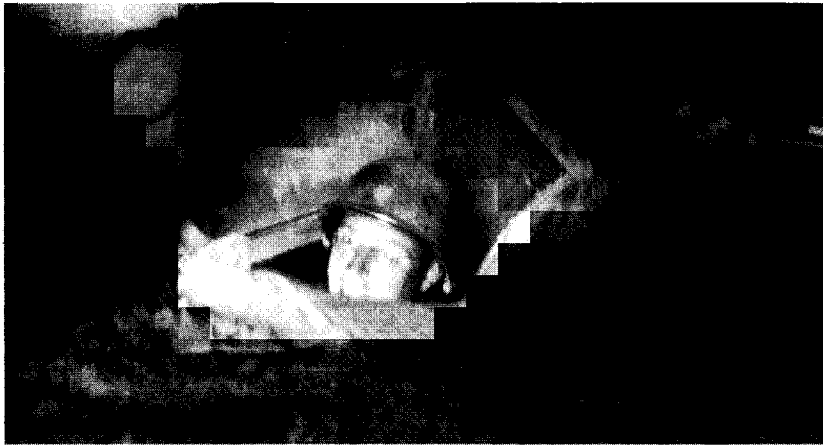
Our physicians, nurses, and technicians were superb, staying "at it" and operating while

shells, bombs, and "hail" fell around them.

During the first few nights on Anzio, we dug in our own cots to just below ground level and surrounded them with sandbags. Our digging was restricted because of the shallow water table. We rigged a roof over our cots with sandbags as protection from hail. Later, as the water table subsided, we dug deeper. Thus, we spent four months sleeping underground.

On the beachhead, we had priority in personnel, equipment, medications, and supplies. Great army logistics prevailed under difficulty. Food even was upgraded.

Blood for transfusion pre-



Dr. Tipton in his initial foxhole, under his cot. Several days later, he dug the cot down to dirt level, surrounded it with two to three layers of sandbags, and put a roof of sand-filled plasma boxes on top.



Dr. Tipton's bunk in the fourth foxhole after engineers dug the soldiers in, better and deeper, with revetments and sandbags on the roof to stop the bullet and shell-fragment hail. A general told the doctors, "You're in a fool's paradise."

sented few problems. The British Field Transfusion Unit was in charge of the blood bank supply. This unit drew blood from troops in the Naples area and shipped it to Anzio by landing ship tank. We had learned early that plasma was not a substitute for whole blood. We still used

plasma for some situations, such as blood volume and burns. Whole blood was used to replace blood loss. We used whole blood generously.

It took our laboratory approximately 30 to 45 minutes to cross-match the blood. Consequently, in severe blood-loss shock cases,

we used noncross-matched, low-titre O-type blood and plasma for immediate replacement when judgment required it. We had few reactions. When cross-matched blood was verified, it was substituted immediately, and the noncross-matched transfusion ceased.

We had no plastic bottles, tubing, or catheters; instead, these were made of glass, rubber, or metal. Rope was strung along canted tent poles to hang intravenous solutions.

On Anzio, our hospitals were in the middle of extremely intense action. I know of no similar experience in World War II for functioning hospitals to be in the middle of an active battlefield for this length of time. We were not just in the combat zone but in the actual battlefield.

I am proud of our achievements. We exerted maximum effort toward our commitment to do our utmost for our wounded. We worked harder than at any time in our lives. It was worth it, and I would not have missed it!

Editor's note: It is worth noting that Dr. Tipton appeared previously in the *Bulletin* 52 years ago. Dr. Tipton wrote "The tissue audit committee in an open staff hospital: Three years' results from Brackenridge Hospital," which was published in the July-August 1954 edition (*Bull Am Coll Surg.* 1954;39(4):159-161, 191-192).

The 50-plus years between contributions is believed by the editors to be a record unmatched in the *Bulletin's* history. It certainly merits an acknowledgment and a "thank you" to the author on behalf of our readers.

Dr. Tipton is a retired general surgeon in Austin, TX.