(1955)

1955

The Medical Management of Mass Casualties
The Oration on Trauma

Frank B. Berry, M.D., F.A.C.S., Washington, D.C.
Assistant Secretary of Defense (Health and Medical)

"A sudden flash, a blast and then a cataclysmic earthquake—fire, lightning, earthquake—all the representatives of disaster and death, each following the other."
—*Hiroshima Diary*[1]

THE PROBLEM of the medical management of mass casualties concerns itself with the measures required to minimize panic, to save lives and to provide the best possible surgical and medical care to the greatest number of people within the first three or four days following such disaster. Two phases must be considered. It is one thing to prepare for, plan and maintain medical operations with orderly evacuation in a system of treatment stations and hospitals in time of war and quite another to meet a sudden civilian emergency which may or may not be associated with war. I will allude but briefly to the former and devote most of this talk to the latter, for "in the former case medical officers are prepared for the work and its emergency. In the latter case there can be no such preliminary work."[2] Today that statement is not exactly true because much thought and planning have gone into this second problem.

SOME DISASTERS IN POINT

Let us first consider briefly the purely military problem and think back to the British in the Battle of the Somme in 1916, where a military medical system was faced with one of the heaviest loads it has ever had to cope with in war. The British met the problem with foresighted planning and handled it in superb fashion. Between July 1 and November 30, 1916, three British armies admitted to their field ambulances 316,073 wounded. In the month of July alone the number was 123,908; and in one 24-hour period, 26,675. And during this same period an additional 2,192 of the enemy also received care. In a single day one casualty clearing station, the equivalent of our evacuation hospital, received 5,346 wounded soldiers. In planning for the battles, the district medical officer of the Fourth Army estimated the number of wounded who could be dealt with in his own Army area in any one day as 24,000. As a matter of fact, 23,993 passed through his field ambulances in the first 24 hours.[3] The line of evacuation was from the regimental aid posts to the advanced dressing stations, walking wounded collecting stations, main dressing stations, casualty clearing stations, on back into stationary hospitals; the wounded reached these by walking, hand litter carry, wheel litter carry, motor and horse transport, ambulance trains and canal barges, and finally by ship back to England. During these four months of battle, the medical services of the attacking armies were stretched to the utmost to handle a third of a million casualties, even with careful planning and with excellent medical support from the front all the way back to the homeland.

Next we have a series of civil or natural disasters, although one of these was associated with war. First, as one reads the story of the San Francisco earthquake and fire of April 18, 1906, he cannot but be impressed with the very fine management of this catastrophe which occurred without warning early one morning and threw a city of 500,000 into an acute emergency. The immediate loss of life was probably in the neighborhood of 500, but the medical situation included the care of many injured and ill and the eventual protection and welfare of about 200,000 refugees.[4] The streets were filled with débris and uncontrollable fires had started; yet the mayor rose to the occasion immediately and demonstrated his ability as an executive by mobilizing all the necessary forces, which promptly organized an efficient medical and sanitary service. Within less than two hours the Army was called upon and, under the direction of Generals Greely and Funston, 1,500 troops were patrolling the streets, with marines and sailors guarding the waterfront. The city was divided into three sanitary districts with Lieutenant Colonel George Torney of the Army in command, working with the Health Commission and the Red Cross and their volunteer organizations. Food and supplies began to pour into the city, the water supply was guarded, orders for boiling all water and milk were issued, an inspection service established and latrines were ordered dug. Both the water and sewage supplies

Presented at the Clinical Congress, American College of Surgeons, Chicago, Illinois, November 3, 1955.

had been disrupted; hence the danger to the city was great. An immediate increase in births occurred and at the same time the disposal of the dead demanded attention. Saloons were promptly closed, police forces organized and a commission of vigilantes established. The surgeon general of the Army was notified and within the day a trainload of medical supplies was on its way from the St. Louis Medical Depot and a field hospital dispatched from Washington. The hospital set up in the Golden Gate Park as an isolation hospital to meet an expected epidemic of typhoid fever, which did not occur. Generous help poured in from all over the United States, both in personnel and in kind. As we look back upon that major disaster and compare it with our lesser disasters of Texas City and Worcester, one is impressed with how well it was handled 50 years ago when we had less knowledge and less effective tools and methods of transportation at our disposal than we have today.

In December 1917 there was the explosion at Halifax when a munitions ship was rammed by a relief ship and one-third of the city destroyed by the explosion and fire. Over 1,000 were killed and about 20,000 injured.[5] Again, teams were organized immediately and help was rushed from Canada and the United States to that stricken city in a bitter North Atlantic winter.

More recently we have had our disasters at Boston in the Coconut Grove fire, and at Texas City and Worcester. In the Coconut Grove fire, the medical facilities of the city of Boston were unprepared and were heavily taxed to treat the large number of severely burned patients who were admitted to the hospitals. In Texas City, again the Army was called to assist with personnel from Fort Sam Houston and supplies were sent by air from the St. Louis Depot.

Two years ago a section of the city of Worcester was devastated by an unexpected tornado. It is reported that some hospitals were jammed while others stood half empty awaiting patients. In the confusion that followed, entrances and exits became blocked with traffic and hospitals were overloaded and failed to send patients on to less crowded institutions. In addition to the patients, relatives and friends milling about in the wards and corridors added to the confusion. Surgeons who had been in the war forgot their training and hurriedly sutured wounds without proper débridement, and this within a decade of our recent experiences in World War II and Korea and the mass of wound literature constantly available!

We also have the experiences of London and other English cities and Germany itself with the terrific bombings in World War II. Here the care devolved upon both the military and civil. But again, these nations were at war and the military had to be free for their own operations; hence the local care was chiefly the responsibility of civil defense. The result is that in England a strong civil defense organization developed and persists today, actively contributing to the problems of civil defense.

Finally we come to Hiroshima and Nagasaki, and I list these as both war and civil disasters inasmuch as the problem had to be met largely by the survivors with the scant civilian means at hand. The dropping of the bomb was similar in its unexpectedness to the suddenness of an earthquake, as described in the opening sentences of this paper, a quotation from Hachiya's *Hiroshima Diary*, but with the additional factor of unsuspected radiation injury.

Present Planning

Now we talk of nuclear weapons, and I should like to describe to you very briefly parts of Operation Alert in June of this year [1955]. Operation Alert was designed and staged to test the capabilities and deficiencies of this country in the face of an all-out attack with major destruction simultaneously in a large number of its cities. It actually consisted of three parts: first, the military alone; second, civilian defense; and third, co-ordination of the two.

Let us consider the situation from the standpoint of modern war where it is quite conceivable that many cities would receive such destructive attacks simultaneously. In Operation Alert the initial information recorded that *several million* had been killed outright and an equal number injured. In Hiroshima the small army force located in that city was wiped out completely by the bomb and the civilians were left to shift for themselves without preparation or knowledge of the exact nature of the destruction. At the start we must recognize clearly that such a catastrophe includes all classes of people and types of workers as its victims and destroys industries, stockpiles, buildings, water and sewage systems, communication and transportation. There is *no* selectivity. Therefore, the stricken city cannot rely upon its own reserves but

will always have to call upon its neighbors for major assistance. In such an overwhelming disaster the local inhabitants will do the best they can but it will be quite out of the question to expect them to report to their appointed posts when their first thoughts quite naturally will be for their families and friends wherever they may be. Furthermore, how does one get through the rubble and destruction and combat the raging fires that inevitably follow with the added loss of life?

Our problem today is effective medical organization and exploitation of neighboring and distant as well as indigenous resources. This may be accomplished by 1) providing sufficient personnel and equipment under the control of Civil Defense;[5] and 2) preventing the military medical services from being swamped by masses of civilian casualties.

It must be remembered that in time of war the primary mission of the Armed Forces is the prosecution of the war and the whole effort of the nation must support this military action. On the other hand, the military may initially be required to give active assistance to the civilian economy in order to restore the war potential so necessary for the successful execution of the military mission.

Organization of Nearby Communities

The magnitude of the civilian problem in such an event may well be greater than that of the military. Unquestionably, however, there will have to be some overall direction and it was largely with this in mind that Operation Alert was staged; hence, the importance of equally good medical organization in the peripheral towns and smaller cities centering upon the larger cities in their area. With Boston, for example, we think of places like Manchester and Concord, New Hampshire; Springfield, Massachusetts; Portland, Maine; and Cape Cod. It would be wrong to count upon Providence, Rhode Island, because that city might also be included and possibly also the important industrial areas in Connecticut. Throughout the years Boston has been the center for medical service in New England. Conversely, in time of disaster Boston would need to call for help upon the same area which previously had called upon it. And so elsewhere throughout the country mobile hospitals and medical and surgical teams should be ready to be sent to the stricken cities by any means available. The Air Force, for example, could supply air lift for some of these teams and their equipment; such a plan has already been worked out by its surgeon general.

The immediate problems are 1) removal of the débris so that rescue squads may enter the damaged areas; 2) combating the fires; 3) care of the injured; and 4) disposal of the dead in order to prevent disease and improve morale—"Darkness came and still there were no lights except the lights from the fires where the dead were burned. And again the smell of burning flesh."[1]

Public utilities which will require prompt attention are water supply; sewage disposal; availability of power and light; food, shelter and clothing for the homeless and refugees. Early attention will be directed towards re-establishment of communications; this can be facilitated by prior knowledge of all radio stations and all amateur radio operators with transmission equipment, since with the telephone lines badly damaged, radio will be the only means of communication at first. All of this requires an almost instantaneous reaction in implementation of the disaster plans which should be in existence in all cities and towns today. In any event the Armed Forces will be called in. Even if the disaster is entirely civilian and apart from any war, much of the work will be delegated to them for, as in San Francisco, "they (the Army Medical Officers) accomplished much more than would be done by the civilian inspectors . . . and it is a question of whether the civilian authorities will exact the same observation of the rules for the preservation of the health"[2] as will the military. More recently, in the floods in the northeast, the assistance of the military was immediately sought by the states. This has always proved to be the case in the past and will probably be so in the future; hence the need for planning at top levels as we are now doing with a committee established among the federal agencies to provide for co-ordinated direction and mutual support in case of such a disaster. In Operation Alert this was one of the gaps that appeared.

Sanitary engineers are a vital part of personnel needs in cities and should be available to their neighbors in time of stress.

As for food and transportation, the population must be fed, and along with the water and milk supplies, food must be safeguarded. This may require temporary use of many latrines to prevent spoilage by sewage. Rats, flies and other vermin must be controlled as early as possible and measures for immunization and protection against

typhoid, cholera, typhus, plague, dysentery, smallpox, malaria and all the diseases that we now more or less ignore must be instituted. In a disaster of this scope it is estimated that two people are required to care for each sick or wounded; therefore, every means available must be considered, even though they may seem harsh, to keep the population ambulatory, moving, and able to care for themselves and to help others. Temporary transportation must be provided and rigid traffic control instituted.

You may shrug off many of the questions I have raised as not being medical and yet I assure you they all entered into the medical planning in the San Francisco disaster. And if not strictly in the medical care category, they are at least paramedical and belong in the public health aspect of a disaster. By instituting these measures at once, more manpower will be available, industry and labor will begin to operate in their proper spheres and there will be better medical management of the masses of casualties. In the early phases of a major disaster, a hard decision must be made as to how this very limited and precious manpower pool will be allotted, first as between the military and civilian requirements, and then in turn as to the priorities for allocations within the civilian group.

Medical Care Per Se

Now we come to the problem of medical care itself. A disaster producing 100,000 casualties in a single city propounds an enormous problem, but what if many cities are damaged at the same time and the casualties are hundreds of thousands? What happens to our present elaborate medical organization geared to the intricacies and details of care in fine institutions where personnel and time are plentiful? Here we have the reverse. These institutions may no longer exist or may be damaged so that they have no light, heat, water or food; now personnel and time are scant and of the utmost urgency. How do we handle the sick and wounded with almost nonexistent or such limited makeshift facilities? There must be a sound plan for sorting, rapid evacuation and dispersion. Every means available for evacuation will be employed. As a plane brings in medical supplies, that plane will probably be used to evacuate casualties, and roads, rail and water, must also be utilized to the greatest extent possible. The greater the dispersal the more prompt and better will be the care. Nowadays a plane can travel great distances in one, two or four hours and evacuation of this type will diminish the surgical and medical load, or lag, that will pile up if the authorities demand that only the remaining local, improvised and nearby hospitals be utilized. I would visualize the chain of evacuation for such a disaster as first consisting of many small aid stations with triage, or sorting of patients, starting right there. From them the walking wounded would be sent on back to dressing stations or be utilized to help carry some of the nonambulatory patients. Here an effort should be made to tag patients as to identity, if possible, and with brief listing of initial treatment and medication. It might be necessary to have litter bearer relay stations before reaching collecting stations where transport can enter. Let me emphasize that litter bearers and aid men are any able-bodied civilians, even the many who themselves may have minor injuries. At the collecting stations further triage would be effected and patients held here or dispatched to hospitals not only in the immediate area but also to distant points according to the seriousness of the injury, the occupancy of the hospitals and the surgical backlog, or lag, as reported back by them. As soon as field communications are established with a regulating officer in charge, he will keep in touch with an emergency regulating center to control the distribution of patients. All improvised hospitals should assure themselves of sufficient space at the receiving wards so there will be no clogging of transport. Again let me emphasize rigid traffic control.

In setting up these hospitals particular attention should be given to the freedom of ingress and egress, availability of water, a place for sewage disposal and good light. Nothing will facilitate the handling of the workload more than attention to these primary essentials. The receiving ward at every collecting post, clearing station or hospital is a center for triage, or sorting, and here is where the older physicians and surgeons with experience and judgment should be stationed. Those with field experience in wartime are especially qualified as triage officers. There must be no jealousies or local pride involved. The question is how to provide what is best for the patient in the shortest possible time; hence the need for organization so as to assure proper utilization of whatever pool there may be of medical and paramedical personnel, and in this group I include the clergy, morticians and all groups of paramedical and allied personnel.

Good triage means the following:

(1) Prompt return to a work status of patients with minor injuries, and then a system of priorities for the injured so that early priority treatment is given to those most likely to respond to treatment available at a given time and place;

(2) Performance of only the most expedient therapeutic procedures sufficient to meet immediate medical requirements;

(3) To do nothing except for urgent lifesaving procedures which decreases the patient's ability to care for himself.[6]

The Best Use of Assets

Maximum economy must be exercised in the use of all medical assets, including personnel. For example, trained professional individuals should not be assigned to first aid, rescue transportation et cetera. Supplies must be rigorously conserved.

The given situation must be evaluated and plans put into effect accordingly. In the event of bombing it should be remembered that the vast majority of the resulting injuries will be due to the explosion, as from flying débris and falling objects. Thermonuclear weapons will produce in addition large numbers of victims with burns and ionizing radiation effects. In such civil disasters high velocity wounds need not be considered because those within the immediate range of the blast will probably all be killed and it is only in this area that missile fragmentation has high velocity. Thermal injuries may result from the flash incident to the detonation of the weapon, or by ignition of clothing and later by fire. Radiation injuries may be disregarded in the initial phase of such a disaster.

Emergency medical care may be rendered by anybody and consists of 1) control of hemorrhage; 2) artificial respiration and restoration and maintenance of airway; 3) emergency care of certain types of wounds, such as hand injuries, sucking chest wounds; 4) emergency splinting of fractures; and 5) application of dressings.[6]

In sorting the patients, from station to station, four varieties should be considered and only those who can be returned to useful activities should be held in the immediate area. The four are those requiring

1. *Minimal treatment*, such as for small lacerations, contusions and simple fractures of small bones and second degree burns over small areas.
2. *Immediate treatment*—patients with hemorrhage from an easily accessible site; extensive lacerations; and rapidly corrective mechanical respiratory defects; incomplete amputations; open fractures; and severe crushing injuries of extremities.
3. *Delayed treatment*—patients with moderate lacerations but without extensive fractures; closed fractures of major bones; noncritical injuries of the central nervous system; and for the most part, head injuries.
4. *Expectant treatment*—patients with critical injuries of the respiratory and central nervous systems; penetrating abdominal wounds; multiple severe injuries and severe burns over large areas[6]—more than 40 per cent of the body surface.

In all probability in a disaster of really major proportions, patients in Group Four may be the last to receive definitive treatment.

The prime objectives of emergency medical care are 1) to preserve life and prevent further deterioration until more definitive treatment can be given;[6] and 2) to assure that a casualty will receive such treatment in the shortest possible time as will return him to a useful state as soon as possible.

Depending upon a given situation, emergency treatment, although a primary function of the first-aid and next collecting stations, may be required even of hospitals staffed and equipped for further care because it is essential that hospitals in nearby areas should never become clogged with patients; hence, it may be necessary to give only such treatment as will render a patient transportable.

The depots where parenteral fluids have been stored may be destroyed, and at the present time we have no method of preserving red cells. In collecting blood, for example, teams of 40, working 24 hours, can provide 1,000 units of blood a day.[7] To revert to Operation Alert, Civil Defense reported to us that the supply of blood was exhausted almost immediately. In the confusion of the Worcester disaster, most of the 950 units of blood which were drawn locally in the first 24 hours could not be used because of lack of refrigeration, lack of sterility, and lack of materials for proper typing.[8] Therefore, the type of resuscitation available must be scaled to the magnitude of the disaster. What little blood there is must be utilized to replace blood loss by major hemorrhage and perhaps for use in major burns. A similar rationing may be necessary with parenteral fluids. We have become so accustomed in recent years to the intravenous

method of administration that we have almost forgotten other ways and means for fluid intake. We may well have to revert to hypodermoclysis, depending upon the numbers wounded, our available personnel and the amount of equipment; and we should reiterate over and over again in our teachings that every effort should be directed to administration of oral fluids whenever possible. To think for a moment that in any disaster of truly major magnitude we can collect blood immediately in any adequate amount is unrealistic.

During the first few days we must confine ourselves to that surgery which is truly essential under existing conditions. This may be far from our ideal and may be defined as that surgery which is necessary to save life and limb, such as the control of hemorrhage or the treatment of grave physiological disorders, completion of partial amputation, splinting of major fractures and the dressing of wounds for transport. The objective also is to return to activity in the shortest possible time those who can remain ambulatory and assist in the treatment and handling of the less fortunate. Complete débridement may not be possible and the initial surgery may have to consist simply of long releasing incisions and drainage at dependent areas with the wounds then immobilized, and a tag attached to the patient denoting what has been done.

Definitive care for the few must not retard sound initial care for the many. No primary suturing of soft tissue wounds can be accomplished. Again let me refer to the Worcester disaster where a majority of the wounds which were sutured broke down and suppurated, and were still under treatment six weeks later.

Ingeniousness Is Necessary

Many makeshifts and improvisations will have to be made as to hospitals, the utilization of medical and paramedical personnel and treatment afforded. All doctors will have to consider themselves as doctors and forget in large measure that they are specialists. If a large number of thermal injuries are encountered, for example, the treatment will of necessity be far from ideal and wherever possible the open or exposure method will be used. When such is not possible, some simple bland ointment will be applied, and if a local anesthetic is incorporated in it, so much the better. Emphasis, of course, will be placed on the administration of fluids by mouth. Proper dispersion of patients will permit the best treatment for the greatest number in the shortest possible time and prevent the piling up of surgical backlog in any one hospital. The same simple principles will have to suffice for fractures. For open fractures only wide fascial splitting, drainage at dependent areas, simple dry dressings and immobilization may be possible; for the closed fractures of the long bones, only adequate immobilization. All, except patients with relatively minor injuries, may require evacuation.

(Continued on following page)

Worcester

Following the Oration on Trauma at the meeting of the American College of Surgeons in Chicago, I have received several letters from Worcester and a copy of an editorial in a newspaper stating that I insulted the medical profession of Worcester. Of course such is not the case at all; I realize very well that when caught in a disaster, everybody shows the very best side of his nature and gives of himself wholeheartedly. I have been further advised that studies are under way by the profession in Worcester to re-evaluate the whole situation. My remarks were taken from an address[7] by a member of the committee appointed by the National Research Council to study this disaster.

As surgical consultant to the Seventh Army in World War II, I was responsible for the planning of hospitalization and care of 63,000 wounded. This included provisions for blood, arrangement of facilities and personnel, intimate co-operation with the divisions of our medical battalions and our hospitals in the supporting zone. Our hospital mortality was 2.5 per cent, and our return to duty from installations within the Army area 40 per cent of casualties admitted to our medical installations. Our forward hospitals were frequently within five miles of the front lines, with artillery positions at times on immediately adjacent property. Had there not been careful planning on the part of all of us on the medical staffs of the Army, corps and divisions, one can readily imagine the resulting catastrophe and disorganization that would have existed.

Proper organization and direction are the principles that should be emphasized and these I attempted to emphasize in my address. Without this there is bound to be wasted effort, unnecessary fatigue and stresses, and resulting greater loss of life, morbidity and confusion in spite of the best and most untiring of individual effort. If, therefore, my remarks were misconstrued, I am heartily sorry therefor.

F. B. B.

Holding units may be provided for this last group, as well as the temporary holding stations for those awaiting evacuation.

As to hospitals, it was found in World War II that the maximum load that could be accommodated in a 24-hour spurt was 100 to 110 operations, in 750-bed evacuation hospitals, and 90 to 100 in 400-bed evacuation hospitals; and with a week of steady work this number fell to 75 to 80 for the 750-bed hospitals, and 60 to 75 in each 24 hours for the 400-bed units. The more complicated the procedures which are performed, then of course the greater length of time for the surgery and the fewer patients who can be treated in a 24-hour period. Hence, only the simplest measures based upon the basic principles of surgery and the treatment of trauma can be undertaken in this initial phase, up to perhaps 96 hours.

What can we do in time of peace to prepare for these disasters, even those comparable to the Texas City explosion and the Worcester tornado?

1. Preparation in co-operation with Civil Defense for an efficient unified organization not only in a given city but also in that city in relation to its neighbors.
2. Accumulation and storing of medical supplies, with particular attention to proper dispersal.
3. Universal immunization against tetanus.
4. Universal blood typing and marking of the individual. It is no good to provide the individual with tags or cards as these are frequently missing; so also are various lists of donors. The surest method is the tattooing of the blood type on every individual. This can be done at the waistline, an area usually protected by the belt, or in the lower axilla, another protected site. This may sound radical but it is the simplest and only sure method of making available what may prove to be lifesaving information.
5. In our teaching of surgery continual emphasis on the principles of the surgery of trauma, the proper performance of the initial surgery, and the proper timing and staging of surgical procedures. Technical perfection improperly timed may end in disaster or cost the lives of others awaiting surgery.

What have we learned from the great disasters of the past? This may be summed up in a very short phrase: The absolute necessity for proper organization and direction. Without such organization, panic will ensue. This panic may be likened to the stampede of horses and cattle in a burning stable when, by milling about, they eventually destroy themselves rather than accept the way to safety. And so with the ill conceived and almost thoughtless actions of people at such times—mass hysteria if you will, prompt and vigorous leadership may prevent or quell such panic. All of our cities and towns, even our smallest communities, should be ready with a plan of action which includes assistance to their neighbors.

In multiple areas of simultaneous devastation, as might well occur in future war, this ready organization with bold and vigorous direction is especially important in the first few days. Prompt establishment of a modified martial law, as was suggested by the president following Operation Alert, may well be the answer. It has occasionally happened that the governors of the states have declared local areas under martial law for similar purposes. Establishment of martial law in such times has been well accepted by the people and seems to provide a prompt means for providing discipline and avoiding the human jealousies and frailties to which man is heir. To provide for such eventuality, remote though we think it may be, is the duty of all of us. Without it many lives will be needlessly sacrificed and our response in restoring order from chaos will be greatly impeded.

REFERENCES

1. HACHIYA, M., Hiroshima Diary. University of North Carolina Press, 1955.
2. Work of the Medical Department of the United States Army in San Francisco. Mil. Surgeon, 1906, 19:84.
3. MACPHERSON, SIR W. G., History of the Great War, Medical Services, General History. Vol. III, London, 1924.
4. San Francisco's Great Disaster, Pacific Medical Journal, 1906, Vol. 49, May-June.
5. Article on Halifax, Columbia Encyclopedia. Second edition, Colorado University Press, 1950.
6. Early Medical Management of Mass Casualties in Nuclear Warfare. Department of the Army Technical Bulletin (presently in preparation).
7. RAKER, J. W. Lessons Gained from the Worcester, Massachusetts Tornado. Lecture at Walter Reed Army Medical Center, January 9, 1954.
8. BAKST, H. J., BERG, R. L., FOSTER, F. D., and RAKER, J. W., National Research Council Study of the Worcester County Tornado.

The Tenth Peruvian Congress of Surgery is to meet in Lima, March 18 through 23; and is followed by a chapter session in Tacna March 25 through 28. President of the Lima meeting is Dr. Estaban D. Rocca; of the Tacna meeting, Dr. Carlos A. Proaño. The Peruvian Academy of Surgery sponsors both sessions.