OPERATIONAL MEDICINE - AN IMPORTANT BRANCH OF ROMANIAN MILITARY MEDICINE IN THE CONTEXT OF THE EVOLUTION OF ARMED CONFLICTS

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Abstract: *Operational medicine is a concept born from the necessity to adapt medicine to the new progressions in the evolution of conflicts. Taking into account the fact that the forces involved in current conflicts are aware of the new dimensions of warfare, it has also become necessary to reconfigure the medical services provided in an operations theatre or in a real battlefield. Therefore, the tacticians, doctors and other American specialists have penciled operational medicine as a sub-branch of military medicine and, respectively, classified it according to the type of conflict in which it is engaged, but also according to the military unit it serves. A careful analysis of this concept in its evolution clearly demonstrates that operational medicine has been welcomed by all the parties involved, as the concept was quickly understood and implemented as such, progressively by NATO member states followed by others. Sprung from necessity and emerging as a characteristic of an extremely vast field (that of national and global security),employing dedicated and highly trained people, operational medicine always proves its effectiveness, achieving the best results by saving human lives.*

Keywords: *operational medicine, medical echelon/ROLE, theatre of operations, first aid, medical evacuation.*

1. DEFINITION AND BASICS CONCERNING THE CONCEPT OF OPERATIONAL MEDICINE

Operational medicine is the act by which medical services or healthcare are provided in unconventional situations and environments, in situations where important resources that can easily be found in a regular medical-sanitary unit are significantly limited or restricted. At the same time, these limitations and/or restrictions may be represented by a restricted existence of the expertise of doctors specialised in different fields, by very short time intervals allocated to a medical intervention, by atypical or even inappropriate locations for the exercise of a fair and appropriate medical act or by climatic conditions which are not the most conducive to first aid or to carry out an emergency medical intervention.

At the same time, the operational medicine is that operational situation that gives medical-sanitary personnel a realistic picture of a battlefield in which one or more victims, with various traumas, can appear at any time, and these personnel, even under the conditions of the failure or destruction of the own medical equipment, with or without the necessary supplies, must improvise so as to provide first aid and save as many human lives as possible.

Therefore, the operational medicine involves medical care providing directly on the battlefield, in a specific context of an operations theatre, inside the urban patrol perimeter of a conflict zone, under tactical fire carried out by own troops for cover or under the enemy fire. It also involves the tactical administration of a particular medical care protocol for victims resulted from combat actions, as well as the fact that medical-sanitary personnel is able to move together with the military unit/subunit of which it belongs (group, platoon, company, etc.), to different places and areas and to form, also depending on the level of the military structure it belongs, to which the so-called victims' collection points, battalion-level first aid stations and forward surgical teams.

Given the first definitions and concepts of operational medicine, it is considered that, worldwide, the promoters of the operational medicine are some Americans military physicians and some specialists in the field from USA. They consider that the operational medicine is carried out in certain segments and is appropriate to specific levels of the place where the first aid is granted or the medical act is carried out. This is also based on the fact that the way in which, currently, an armed conflict or even a war take place is no longer a classic one, means that it is not characteristic of the period in which the two world wars took place, which is now experiencing new forms of deployment (e.g. urban fight or struggle).

We appreciate that operational medicine is designated both to soldiers and civilians injured during combat actions and also is characteristic for every level.

As we have said before, these levels are closely linked to the place where victims are treated, but also to the number of medical-sanitary specialists who can intervene, as a matter of urgency, to save the lives of wounded or injured soldiers or civil personnel.

It should be noted that the NATO Logistics Manual classifieds medical structures on 4 levels, as it relates strictly to military infrastructure and capabilities that can be managed to the maximum extent by the military institution [1].

With the definition of the 5 levels, the American specialists, about which I was talking above, implemented the term "ROLE" or "ECHELON" in order to describe the stratification of the levels in which the medical support is such organized so that first aid can be given, an adequate first medical treatment, the evacuation of the wounded from various places, the refueling or the replenishing specific materials. The two terms, "ROLE" and "ECHELON", are defined taking into account the capabilities and resources these structures are equipped with and which, generally, are not specific or do not correspond to classical medical facilities.

American specialists allocated the term "Role" to medical structures from Land Forces (or Army) and Air Forces, while the term "Echelon" used it for their Maritime Forces (Naval Forces, in the case of other NATO member states).

The treatment capacity of each Rol/Echelon is so designed as to constitute a superior treatment capacity compared to the lower medical level. That means that, a Role/Echelon-3 medical facility will have the capacity to perform Role/Echelon-2 functions and higher, but not vice versa. Each medical support level has the responsibility to strengthen the lower levels, either by providing specific materials or by providing medical assistance by redeploying medical staff or assisted by various means of communication.

When developing *the operational medicine concept*, American specialists designed these medical intervention/care levels so that the patient did not necessarily need to go through each medical/care echelon during treatment and/or evacuation procedure.

As a NATO member state, Romania has implemented this requirement at the force structure level of the Romanian Army, especially at the level of the military structures deployed in the theatres of operations, which participate at missions undertaken by our country within the NATO or ONU Alliance, such as: Force Protection Battalion, National

Support Element, UN Multidimensional Integrated Stabilization Mission in the Republic of Mali (MINUSMA) to which Romania contributed until 24 November 2020 when the official mission closing ceremony took place and so on. However, it should be noted that this requirement implementation at the level of the Romanian Army has been carried out with big efforts and difficulties. Also, these medical structures are not identical to those of the US Army or other NATO members, and these structures need to be adapted according to both the existing specialist personnel and their own logistics and infrastructure.

Currently, the research in this field is in full development, given that it is a field of novelty, being recently implemented in some NATO armies. Considering the fact that the first researches in the field and the first steps in the implementation of the concept were carried out in the USA, it is obvious that the American specialists are the ones who improve the implementation and management of this type of medicine. Also, they realize scientific studies that are specific to this field. The operational medicine is also part of a maximum actuality domain (a topical domain), which is able to open new horizons in terms of research.

2. A DESCRIPTION OF THE FIVE-LEVEL MILITARY MEDICAL STRUCTURE

Given that the medical-military structures we are discussing in this article are associated with the different military-fighting structures, it is normal to have a definition or classification of them. Because the army, in general, regardless of the state of which it belongs, is a stratified, well-ranked system, and these medical-military structures are so designed and created to be associated with military units, regardless of the level they are at (from level 1 to level 4 in the case of the Romanian Army). Next, in order to better understand them, we will define and explain these military medical levels, as they were thought of by those who implemented this concept.

2.1. Echelon/Role 1 military medical structures

The medical Echelon/Role-1 is located in the area of an independent company or a battalion level unit, where are established: a station or first aid point, medical points where medical and sanitary personnel carry out triage activities, take immediate measures to save staff lives or provide primary medical care for those in need.

Thus, at this medical level, it may be granted the first aid or it may be performed a summary medical intervention, or minor injuries are treated, and the soldiers thus treated may return to the battlefield or to the daily activities of the theatre of operations.

Also, at this Echelon/Role, patients with more severe lesions or wounds that cannot be properly treated will be properly stabilized and sent to a higher Echelon/Role for permanent specialist care. At the same time, the Echelon/Role 1 medical structures contribute to the maintenance of the unit staff health by providing information related to the diseases prevention, to the treatment of wounds that have not resulted from combat actions or information related to combating operational stress.

Therefore, the management of illness or injury minor cases and the carrying out of medical interventions that result in immediate staff return to work are the specific functions fo this medical care level.

At the same time, it should be noted that, in theatres of operations, Role 1medical structures accompany the fighting elements during the conduct of daily missions or patrols and on the battlefield during the combat actions. Thus, the Role 1 medical and sanitary personnel grant first aid to the injured soldiers, stabilize them and participate in their evacuation to the Role 2 medical structures.

In the Romanian Army, medical Echelon/Role 1 is represented by those elements or medical and sanitary microstructures from the military structures organization charts that are deployed in international theatres of operations. Typically, a Role 1 medical structure consists of a doctor (specialist or primary) confirmed in one of the following specialties: *family medicine, emergency medicine* (or *anesthesia and intensive therapy*, as was the case with the mission in Mali under the command of the Romanian Air Force General Staff), and one or more medical non-commissioned officers constituted in a medical support group/Role group.

As mentioned above, doctors and the sanitary personnel from Role 1 physically participate in daily patrol missions and combat actions carried out by own troops, precisely in order to be able to provide the first aid and to evacuate the wounded from the battlefield.

2.2. Echelon/Role 2 military medical structures

The medical Echelon/Role 2 shall be set up at brigade or division level (depending on the location situation and the number of military units in a given geographical area), and shall consist of a medical point where emergency medical assistance can be provided or more complex investigations and medical care can be carried out, advanced than those carried out at the level 1 medical Echelon/Role. Also, at this medical level, triage activities, resuscitation, specific treatment of patients until they are returned to service or discharged, as well as emergency dental treatment, are carried out.

At the same time, this medical Echelon/Role can serve as a medical station point for those troops that deflate to the conflict zone, usually for the next 24 to 72 hours. However, it should be noted that, usually, at this medical Echelon/Role, the general anesthesia or surgical activities involving anesthesia cannot be performed.

In some NATO states (but not in Romania), there are also several improved ROL 2 medical structures, called ROL 2+, where several light surgeries can be performed, which do not require intense post-operative activity or long-term medical recovery.

In USA Maritime Forces, Echelon 2 is equivalent to the Role 2+ Land Forces, as a surgical team is an integral part of this Echelon. In the USA, medical Echelon 2 is normally installed on most warships, on some larger logistics or support vessels, but also in some forward logistics sites (FLS).

Currently, in the Romanian Army, there are some Role-2 medical structures, but not in a very large number. They have a certain staffing and equipment, but in the event of terrorist attacks or disasters, these medical structures are intended to support other structures of the Ministry of National Defence or the Ministry of Internal Affairs. Here, we can exemplify the participation of the Role-2 Medical Formation of the Medical Directorate of the Ministry of National Defence, from 12 to 18 October 2018, in one of the largest national exercises in recent years, namely SEISM 2018, planned by the Ministry of Internal Affairs [2]. Within this important national exercise, the Ministry of National Defense participated, along with the national structures with responsibilities in the field of emergency management, with a large staff, and from a medical point of view, the Medical Directorate installed the Military Field Hospital (the extended Role 2 Module), near the Capital, in a polygon from Ilfov County.

This extended Role 2 Module provided all the hospital facilities necessary for intervention in civil emergencies: triage, laboratory, radiology, pharmacy, sterilization, operator module type A, operator module type B, postoperative module type A, postoperative module type B, recovery modules, as well as a communications and informatics module. It is obvious that the accomplishment of all these functions was achieved by the augmentation of this medical structure with specialists from several structures of the Ministry of National Defense.

Considering the dynamics of the military institution after joining NATO, as well as the ongoing Romanian Army restructuring process, in a first phase, these Role-2 medical structures were inserted in the organizational charts of different categories of army forces or support commands.

Finally, in order to achieve a unitary management and conception, these military Role-2 structures were placed under the subordination of the Medical Directorate, being administratively coordinated by this directorate, with the mention that they must respond to the operational needs and requirements ordered by the Defense General Staff, by reporting to the needs of the force structure and the requirements of NATO partners.

We must also state that, at present, only the Role-2 medical structure that we talked about above, actively participates in various national or international exercises, but in relation to the requirements of NATO partners, it must standardize both its level of staffing, as well as its own infrastructure and logistics. The other Role-2 medical structures of the Ministry of National Defense are to be aligned with the required standards, precisely in order to be able to support the combat missions of the military units that they augment in various situations.

However, considering the very broad dynamics of medical staff inflows and outflows into/from the Ministry of National Defense, in recent times, as well as the current global context generated by the coronavirus pandemic that demands the medical system extremely much, we appreciate that the operationalization of Romanian Role 2 military medical structures will extend over a longer period of time.

Regarding the theaters of operations, we must specify that the Romanian Role 2 military medical structures are found in the organizational charts of the fighting units that are deployed, by rotation, in the Theater of Operations in Afghanistan, in the organizational chart of the American Military Camp Hospital Role 2 in Afghanistan or in the organizational chart of the Romanian National Support Element generated by the Joint Logistics Command.

For clarification and detail, we mention that, at present, Romania has already provided over 10 rotations to ensure a medical microstructure for the Role-2 American Military Hospital in Afghanistan, all medical staff standing out by professionalism and constantly obtaining very appreciated results.

Usually, this medical team consists of a doctor confirmed in one of the following medical specialties: *family medicine*, *emergency medicine* or *anesthesia and intensive therapy* and/or a pharmacist and 4 sanitary non-commissioned officers. In general, they come from the medical and sanitary structures subordinated to the Medical Directorate and, only in extreme situations, they are selected from the force structure of the Ministry of National Defense.

Having a less significant history in the field of Role-2 military medical structures, we must mention that the Romanian medical detachment participating in the medical support mission for the Role-2+ TASK FORCE 21 MEDICAL Hospital, deployed in the Iraq Theater of Operations between May 17 and November 29, 2006, mission organized by the Medical Directorate, obtained very good results and was very appreciated by the foreign partner.

2.3. Echelon/Role 3 military medical structures

The medical Echelon/Role-3 is constituted at the level of the army corps and represents a very forward position in which an advanced preventive medicine is performed and where there are specialized doctors in different fields (dentistry, orthopedics, ophthalmology, etc.).

In the army, this Echelon/Role is called field hospital (formerly known as combat support hospital, with the role of treatment and evacuation or mobile army surgical

hospital - MASH). In the USA, for the naval troops, this echelon is represented by the fleet hospital, and for the Navy, it is represented by the hospital ships. At this level, specialists such as orthopedists or ophthalmologists use deployable medical systems or systems (DEMEDS), and they must include all the necessary equipment to examine an injured patient, a rapid diagnostic set (including ultrasound equipment), and in some locations, even a computed tomography device), but also equipment with which a large part of the surface lesions (in various forms), and not only, can be treated. These medical equipment's can include: a microscope equipped with operating room, emulsification unit, vitrectomy unit, various instruments for performing simpler surgeries, external sutures and magnets. For example, surgeons working in this medical Echelon/Role (especially those who are part of the Land Forces and Naval Forces) are trained and prepared so that they go with troops or combat units on the battlefield. Thus, all the equipment we talked about earlier must be easy to pack and transport, facilitating the rapid flow of operational units.

Also, at this level 3 medical Echelon/Role, the wounded soldiers can receive complete, definitive medical care, and from here, depending on the medical evolution of the patients, they are either evacuated to the upper echelon for advanced treatment or subsequent recovery and rehabilitation, or they are reinstated through evacuation and transport policies, thus being able to resume the duties of the positions in which they are employed. In the USA, the medical Echelon 3 belonging to Maritime Forces is equivalent to Role 3 belonging to the Land Forces or Air Forces. The Echelon 3 is found on large amphibious ships, on hospital ships, in fleet hospitals, at the level of forward logistics sites (FLS), but also at the level of advanced logistics support sites (ALSS).

In the Romanian Army, the Role-3 military medical structures are assimilated to the emergency military hospitals subordinated to the Medical Directorate of the Ministry of National Defense. Thus, the Romanian soldiers wounded during international missions, but not only these, are evacuated to these hospitals after being stabilized at the American Military Hospital Role-2 in Afghanistan (in the situation în which the mission takes place in this theatre of operations). This situation occurs only if the wounded has/have lesions or minor injuries that do not require their evacuation, transport and treatment to a Role-4 level hospital such as the NATO forces Military Hospital in Ramstein.

The staff of the Ministry of National Defense can call for almost any medical context to the medical services that these military hospitals can offer, and can benefit from a wide range of medical care. We should also note the establishment, within the Balneophysiotherapy and Medical Recovery Sanatorium “Dimitrie Cantemir” from Bălțătești (also, a military medical facility coordinated by the Medical Directorate), of a center with treatment capabilities of seriously wounded soldiers in theaters of operations.

As a history of the Romanian Role-3 military medical structures, we must mention the operation of the Military Campaign Hospital in Somalia, between June 1993 and October 1994, within the United Nation Organization Observation Mission (called UNOSOM-II). This mission is one of the greatest achievements of the military institution in our country, with many positive results, very well appreciated by the UNO.

Even if for the operation of this military hospital on the whole spectrum of medical specialties, it was necessary the augmentation with civilian medical staff from the medical units on the Romanian territory, the hospital was able to provide medical care in all specific medical fields, which led to the maintaining of very good health condition for both UNO staff and the civilian population in the conflict zone.

Also, we must mention the fact that the military hospital was very well dimensioned in relation to the needs and requirements of the UNO, but also to the features and climate of the area. The organizational structure of the military hospital was quite significant and

very well sized, being made up of 50 beds and having a staff of about 250 people - both medical, administrative and logistics staff.

Also, from the history of the Role-3 military medical structures carried out by the Romanian Army in the international theaters of operations, we can mention the Romanian Military Campaign Hospital deployed in Angola within the UN Verification mission in Angola, called UNAVEM III.

And this Romanian mission, carried out between May 1995 and June 1997, was very well appreciated by UN, and the operation of the military hospital on an organizational structure of 40 beds and a staff of 110 people, of which almost half medical staff, contributed to the maintaining of a good health of the staff and the population it served.

2.4. Echelon/Role 4 military medical structures

The level 4 medical Echelon/Role is usually represented by the military hospital located in a city (usually a more economically developed city), or within an extended military base, the hospital having a fixed position. In this case, the level 4 medical Echelon/Role is represented by the regional hospital, and it can provide multiple, complete medical services, definitive care and is equipped to intervene and treat any type of injury belonging to any medical specialization.

This military medical structure can also provide medical services specific to the field of nuclear medicine, oral and maxillofacial surgery, anatomical and pathological medicine or PET-CT investigations.

At this medical Echelon/Role, the level of care is very specialized, involves investigations and interventions that require a longer period of time and is normally provided in the origin country of the injured soldier. In atypical or unusual circumstances, this military medical care level can be established in a theater of operations.

The medical Echelon/Role-4 provides definitive care for patients for whom the necessary treatment is complex and involves capabilities that are not found in the Echelon/Role-3 structures.

In our country, it is considered that the only military medical capability of Role-4 is the Central Military Emergency University Hospital “Dr. Carol Davila”, which can currently offer the full range of medical services we talked about earlier.

Thus, as it has been observed over the last few years, due to the facilities and multi-specialized staff, this military hospital has taken over for treatment and healing several injured as a result of various accidents or accidents with multiple casualties, while also is a part of the Red Plan established at national level by state specialized structures.

2.5. Echelon/Role 5 military medical structures

In some American states, more economically developed, there are few Role-5 medical structures. This medical level is represented only by some military hospitals, but can also be found in some regional civilian hospitals. These hospitals are usually equipped with the latest and most advanced medical equipment can treat the most serious medical problems and can perform a range of very complex medical interventions, such as those specific to reconstructive surgery, neurosurgery, etc.

Also, at this medical level, medical rehabilitation services may be provided which include: spa medicine services, physical recovery services and/or psychiatric recovery services or recovery for post-traumatic stress disorder.

In Romania, at present, there is no implementation of this concept, the concept of Role-5 Hospital, but we tend to believe that by the possible establishment of future regional hospitals, this concept can be also implemented in our country.

3. GENERAL GUIDELINES OF STAFF TRAINING FOR OPERATIONAL MEDICINE

From the above, it is clear that the operational medicine is associated with theaters of operations in which military actions are carried out or military applicative exercises with national or international participation.

Before taking part in these international missions or in the military applicative exercises carried out in different polygons or tactical fields, the medical staff should take certain courses in which to simulate the performance of medical interventions in conditions as close as possible to those in a theater of operations. Also, the medical staff has to go through some specific modules in which they learn to stop a massive hemorrhage caused by the shooting of a soldier, to manage the unblocking of the airways also resulting from a wound produced by gunshot or to treat a head injury caused by shooting. The American partner symbolically calls the possession of this knowledge, as "the M.A.R.C.H. algorithm." [3] used to assess a patient in a traumatic situation: **M**-massive hemorrhage, **A**-airway, **R**-respiratory, **C**-circulation and **H**-hypothermia.

In addition to the medical care provided on the ground in a theatre of operations, competences gained by the medical staff by going through the operational medicine module, these personnel must know all the maneuvers that are performed for loading and unloading victims in/from different combat and transport aircraft (both helicopters as well as transport aircraft). Also, the medical staff should know how to carry out medical interventions on victims inside these aircraft, as well as providing medical care during the air transport, in the specially arranged spaces for this purpose, symbolically called air ambulances.

We must note that, during the medical evacuation of a victim or multiple victims, the team work and communication between team members are vital, so that the medical staff must be trained in this regard as well. Other courses that medical staff from the Ministry of National Defense should take in order to participate in international missions from theaters of operations, courses that contribute to the development of specific skills for the management of people wounded by gunshot would be: Combat Medic Advanced Skill Training, Combat Lifesaver Course Learning Modules [4] or Terrorism and Disaster Response Course and many other, organized by various NATO partners.

At the same time, the medical staff that participates in the daily actions of the military structures deployed in the theaters of operations must take into account, in the most serious way, the part of individual physical training.

This aspect should not be neglected because the participation in these daily actions involves both the transport of the military equipment and the medical equipment with which they must provide the first aid. Thus, they must take into account the fact that it is possible to carry on them, in addition to their weapon, cartridge magazines, bulletproof vest, safety helmet, ballistic goggles, transmission-reception equipment, the medical supplies necessary to provide the first-aid, and the transport of all these materials requires a very good physical training.

All the materials listed above weigh at least 30 kilograms, and their transport requires very good physical training. Also, the medical staff must take into account the fact that the provision of first aid in critical situations may involve totally atypical positions, inconsistent with those adopted in a doctor's office or classic intervention room, sometimes having to perform the medical act from the kneeling position next to the injured and maybe even from the lying position. And all these aspects require a high-level training.

4. OPERATIONAL MEDICINE - A NECESSITY IMPLEMENTED BY OTHER PRESTIGIOUS INSTITUTIONS IN THE FIELD OF GLOBAL SECURITY

Although it may seem hard to believe or imagine, the operational medicine service is found even at the level of a world-renowned institution, namely the FBI which owns the Operational Medicine Program [5]. A lot of people don't even realize that the FBI has an operational medicine program. Through this program, the FBI prepares and trains special agents who, among others, are graduates of medical studies, are paramedics or even doctors who can provide medical care in extreme tactical situations, which also require the existence of a high level of stress. For example, the training activities of these special agents include interventions in car accidents resulting in human casualties, interventions in cases where protected or target persons suffer heart attacks or exercises to evacuate victims by helicopter. These agents are not different from other FBI special agents because, above all, they have FBI agent status. Thus, they work regularly on various FBI cases like their other colleagues. The difference occurs when a certain situation requires it, in the sense that they must leave the role of case agent and must enter the role of agent who has medical knowledge, effectively putting them into practice.

For the training of such agents, the FBI organizes a course called Tactical Applications for Emergency Medical Technicians, and in this course special agents acquire various medical skills. Thus, after completing such a course, the agents are able to differentiate between a real normal situation and a real situation in which one or more people are medically affected. Therefore, they can intervene in situations where someone is suddenly hurt, in situations where someone suffers a mild heart attack or in situations where someone is saved from drowning. At the same time, in this course, FBI agents assimilate techniques and intervention procedures for situations in which a car accident occurs with one or more victims (they learn how the victims should be handled, how the victims can be safely removed from the damaged car, etc.). FBI agents are also prepared to recognize allergic reactions or anaphylaxis as easily as possible and treat them.

As we said before, the Romanian military institution is in a full process of operational medicine development, in the sense that the implied structures and the structures with responsibilities in the field made visible efforts to align with the standards required by NATO partners.

Although, at present, the specific endowments of operational medicine in Romanian military system are at the beginning of the road, the specialists in the system have started the specific stages of acquiring the material base that corresponds to the structures of level 1 and level 2operational medicine. For sure, in few years, every Romanian emergency military hospital will be able to self-generate a level 2 operational medicine structure both in terms of staff and material base. This aspect will represent the strengthening of a battalion's capability (or a brigade) to be ready for a battle or to be able to be quickly deployed in an international theater of operations.

Also, by transforming the Medical-Military Training and Development Section of the Medical Directorate into a Medical-Military Training Center, the military institution offers a more in-depth training of the medical-sanitary personnel, and this personnel will better serve the level 1 and the level 2 operational medicine structures in the theaters of operations.

5. CONCLUSIONS

In the context in which the current way of conflicts development has changed a lot, compared to the way in which the two world wars took place at the beginning of the twentieth century, it is clear that everything involved in these conflicts must change and adapt. In this sense, the way in which the medical act is carried out during these conflicts had to be changed and adapted, thus appearing the concept of operational medicine.

Considering that this concept has been implemented and works very well at the level of various NATO member states, as well as the fact that our country wants to meet the requirements of this organization, it is obvious that this concept has been implemented at the level of the Romanian military institution. Moreover, Romania proved that it understood the need and the importance of implementing this requirement, fact for which, in addition to the military medical elements which our state deployed in various theaters of operations, Romanian Army participated in several international exercises with a medical focus. Of these, perhaps the most important was that one from 2017, respectively "Saber Guardian", part of "Vigorous Warrior" exercise, in which the Medical Directorate of the Ministry of National Defense provided the real medical care for all Romanian and foreign soldiers deployed in our national territory and participated in the MASCAL (mass casualty) type action sequence which took place between July 10-17, at the Air Base in Mihail Kogălniceanu from Constanța [6].

It should also be noted that the MASCAL Medical Evacuation Exercise provided a close-to-reality scenario for hospital care training for the 30th U.S. Medical Brigade, which led the exercise and three NATO Role-2 hospitals (Field Hospital 212 of USA, Romanian Role-2 Medical Extended Module and Balkan Medical Team), all of these deployed to Mihail Kogălniceanu Air Base.

At the same time, MASCAL represented an event in which the number, the type or the severity of the victims' injuries exceeded the capacity and capabilities of a Role-2 medical team. Thus, the onset of MASCAL was not determined by the type or by the magnitude of the incident that generated the victims, but by the capabilities available at the level of the medical module.

Following this exercise, the Romanian side was very well appreciated, which indicates that the Romanian Army understood very well the concept of operational medicine and implemented it as such.

At the same time, we must also mention the fact that the Romanian military medical staff has the ability to assimilate and to synthesize everything that is new in the field of operational medicine and, even if the efforts made by this personnel will be special and will involve personal sacrifices, certainly the existing and current gap in this area between us and some NATO member states, will be recovered fairly quickly and our country will respond at the maximum level at every international requirement.

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