EMERGENCY LIVE
MAGAZINE
JULY 2022

WHEN TO USE THE DEFIBRILLATOR? LET'S DISCOVER THE SHOCKABLE RHYTHMS

EDM LAUNCHES 'THE MOST BEAUTIFUL RESCUE': EMERGENCY-THEMED CONTEST KICKS OFF

INTRO

FROM THE EDITOR

Hello readers!

Emergency Live is the only multilingual web-magazine dedicated to rescue and emergency workers.
We produce articles, editorials, columns and special promotions for each client. Our social networks ensure high and qualitative market reach, thanks to special campaigns and an editorial plan built according to the needs of the market and selected sales areas.
Emergency Live's target audience is well evidenced by the composition of the newsletter, which reaches more than 320,000 professionals worldwide. Paramedics, nurses, association directors, fire department employees or risk managers are part of our audience and are reached by weekly alerts, newsletters or monthly shares on social media, where Emergency Live's audience is fully reached.

Greetings,

Cristiano Antonino
Editor-in-chief and project manager

DIAC AMBULANCES AND MEDICAL EQUIPMENT ARE IN EMERGENCY EXPO

Diac Medical, a company specialized in used ambulances and equipment for renewed medical ambulances, arrives in Emergency Expo, the virtual 3D fair dedicated to the emergency
Born more than 28 years and based in the Netherlands, Diac Medical has dealers all over the world.

The company, a benchmark for used ambulances and medical equipment, stands out from its competitors for its fair prices, large stocks, quality products and unique approach.

Diac Medical is specialized in the import and export of refurbished medical ambulance equipment and specialized emergency vehicles

On request, ambulances can even be fully equipped with either new or refurbished medical ambulance equipment.

These include AEDs, Monitor/Defibrillators, Ventilators, Suction Units, Syringe and Infusion pumps, Oxymeters, Incubators, Stretchers/Trolleys and Stairchairs, Immobilisation Material and more.

Diac Medical offers only excellence: the company sells only the best European and US brands that have proven to be reliable
All the medical ambulance equipment is certified and requires specialized and certified knowledge.

The products that are sold are biomedically checked, repaired (if needed), certified, cleaned, calibrated and include a test report.

All products sold in the EU have a special 6 months Diac Medical warranty.

Diac Medical guarantees excellent customer services, sells a wide range of high quality products and offers worldwide shipping
Refurbished products can be an excellent option if you are looking to purchase affordable medical ambulance equipment.

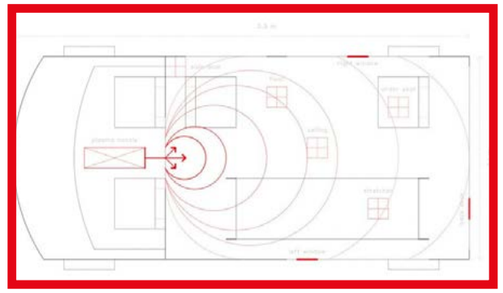
It can be just as effective and trustworthy as new equipment.

Diac Medical's specialized technicians have strict regulations and processes to ensure that quality is up to industry standards.

Parts which need replacement or with an expiration date get replaced immediately.

Also, in a lot of cases the refurbished equipment is in demo condition without any working hours.

AMBULANCE DISINFECTION USING A COMPACT ATMOSPHERIC PLASMA DEVICE: A STUDY FROM GERMANY



An interesting study on ambulance disinfection with atmospheric plasma technology comes from Germany, and offers food for thought and insight.

First of all, what is meant by atmospheric plasma?

If a matter continuously receives energy, its temperature increases and its state changes from solid to liquid to gaseous.

If the supply of energy continues, the existing atomic shell splits, giving rise to charged particles (negatively charged electrons and positively charged ions).
This mixture is called plasma or 'fourth state of aggregation'.

In nature, plasma is present in lightning, polar lights, flames and the sun.
Known examples of artificially generated plasma are neon tubes, the effect produced by welding and flash lights.

In atmospheric plasma technology, gas is excited with high voltage under atmospheric pressure to generate a plasma.
The plasma is ejected from the nozzle by compressed air .

Disinfection of an ambulance using a compact atmospheric plasma device

The worldwide spread of the coronavirus SARS-CoV-2 has highlighted the need for fast and simple disinfection processes, amongst others for ambulance cars on site.

To overcome current drawbacks regarding room disinfection, the use of cold atmospheric plasma in remote operation represents a promising alternative for the disinfection of larger volumes.

In this study, a compact plasma system was evaluated regarding its disinfection efficiency inside an ambulance car.

Methods and Results
The developed plasma device is based on a dielectric barrier discharge (DBD) and operates with ambient air as process gas.

The humidified afterglow from the plasma nozzle was introduced into an ambulance car with a volume of approximately 10 m3 while Bacillus atrophaeus endospores, Staphylococcus aureus or Phi 6 bacteriophages dried on different surfaces (PET-films, glass slides or aluminum foil) were exposed to the reactive gas inside the ambulance vehicle at eight different positions.

Reductions of spores by more than 4 orders of magnitude were found on all surfaces and positions within 2 h.

Due to their higher susceptibility, Phi 6 bacteriophages and S. aureus counts were reduced by at least 4 orders of magnitude within 30 min on all surfaces.

The results show that different microorganisms dried on variable surfaces can be inactivated by several orders of magnitude inside an ambulance by plasma gas from of a compact DBD plasma nozzle.

Plasma gas generated on site by a DBD plasma nozzle proved to be highly efficient for the disinfection of the interior of an ambulance car

Compact plasma systems could be a viable alternative for the disinfection of vehicles or rooms.

EDM LAUNCHES 'THE MOST BEAUTIFUL RESCUE': EMERGENCY-THEMED CONTEST KICKS OFF

Today sees the start of 'The most beautiful rescue', the literary contest promoted by EDM. Are you ready to write the most beautiful rescue story? Here's how to take part

EDM's new 'Most Beautiful Rescue' contest starts today

A leading company in the rescue sector, EDM has decided this year to promote a new proposal in the theme: the creation of a literary text that tells the story of the most beautiful rescue.

Until 30 October, anyone who wants to can create stories of past experiences and memories in the rescue world and send them to EDM, which will publish the most significant stories each week on its Facebook page.

Aimed at rescuers, drivers or fans of this world, the competition aims to collect stories developed by those who, every day, work in the emergency world.

EDM, which has always specialised in the manufacture and marketing of ambulances, self-medics, transport for the disabled and special vehicles, has at heart the familiarity and personal relationship with its interlocutors.

Taking part in the contest is very easy: just go to the EDM website to the section "The most beautiful rescue" and follow the guidelines indicated for writing your story

Once finished, send it to the email address ilsoccorsopiubello@edmforli.it or send it directly through the form at this link Raccontaci il Tuo Soccorso Più Bello – EDM Forlì (edmforli.it).

Every Friday, on the EDM Facebook page, the stories deemed most significant of the week will be posted: it will be up to the public, with a simple like, to vote for their favourite piece and give their opinion.

On 30 October, the last day of the contest, the most voted texts will be collected and the three winners will be decided.

Prizes will be awarded for the top three, while all other stories – even if they do not win the contest – will be published in a digital Ebook, available on the EDM website.

In addition, updates on the contest will be continuously posted on the EDM Facebook page.

And you, what are you waiting for to give voice to your literary vein? EDM looks forward to reading about your most memorable rescue experiences.

FIRST AID, HOW TO PROPERLY DRESS A WOUND

Properly dressing a wound is one of the most basic first aid techniques there is. The process remains unchanged regardless of the size or severity of the injury. Whether it's a child's skinned knee or a gunshot wound, the tenets of wound dressing are identical

Minor cuts and scratches can be treated at home or on the road.

Larger lacerations may also need to be dressed until medical help can be obtained.

Cleanliness is key.

Assess Bleeding
Coming in contact with someone else's blood poses risks, such as transmitting certain diseases.

If at all possible, protect yourself by following universal precautions and wearing personal protective equipment (e.g., nitrile gloves or a mask).

Then, assess the bleeding. A little bleeding is okay because it helps flush dirt and other contaminants out of the wound, but heavy bleeding is bad.

Call Emergency Number if there's:

- Bright red or squirting blood
- A puncture wound on the head, neck, chest, abdomen, pelvis, or back is more than an inch deep
- A deep puncture wound on an arm above the elbow or a leg above the knee

Do what you can to stop the bleeding.

Clean the Wound

- Clean the wound with running water.1
- Wash the skin around the injury with soap. Don't worry if soap gets into the wound, though it is likely to sting and irritate the raw tissue.
- Rinse the wound thoroughly to rid it of any dirt and soap.

- Use tweezers to remove particles (like broken glass or gravel).

Antibiotic ointment isn't necessary for a wound to heal nicely.
However, it can help reduce the pain of raw injuries, such as abrasions.

Hydrogen peroxide also isn't necessary for cleaning a wound and it can be harmful.
The bubbling action of hydrogen peroxide creates oxygen gas—more than the blood can handle.
That can lead to a gas embolism, which is potentially fatal.

Cover the Wound
Only cover the wound if it's likely to come in contact with clothing or dirt.2
Adhesive bandages are the easiest way to cover most minor lacerations and abrasions.
Cuts less than 2 centimeters long can be held closed with butterfly bandages.
If the edges of a laceration are not easily pulled together, then the wound may need stitches.

Get Medical Help
Deep lacerations extend into the tissues below the skin.
If you can see layers of tissue along the sides of the laceration, it's pretty deep.
Puncture wounds are harder to evaluate and should be based on how long the offending object is.

Seek medical attention for a deep wound if it's:

- Tender or numb
- Inflamed (red and swollen)
- Draining pus (yellowish, thick liquid)
- A laceration with jagged edges or won't close

Also, get medical help if it's been more than five years since the victim had a tetanus shot.

ARGON GAS SAVES NEURONS AFTER CARDIAC ARREST: TESTED ON THE WORLD'S FIRST PATIENT AT THE POLICLINICO DI MILANO

The effects of Argon. A simple gas could radically change the prospects for recovery in people in cardiac arrest: a gas that would be able to preserve the patients' brains as much as possible, greatly limiting neurological damage and significantly improving the recovery of cognitive functions
A special study is underway at the Policlinico di Milano to demonstrate this, and the world's first patient has just been treated with Argon gas

He is a man of about 60 years old, who after a week of hospitalisation has already returned home in perfect condition: statistics, on the other hand, say that in Italy only 8% of patients survive a cardiac arrest without serious neurological outcomes or disability.
The idea of using Argon to treat patients in cardiac arrest has been the subject of scientific studies since 2012 and was born thanks to Giuseppe Ristagno, an anaesthetist at the Department of Anaesthesia-Riimation and Emergency Care directed by Antonio Pesenti, who has also been working with the Mario Negri Institute for some time.

Ristagno developed the first insights on Argon together with Silvio Garattini and Roberto Latini of the Mario Negri and initiated animal experiments, in which several very promising results have already been demonstrated. Now, after 10 years of scientific research, it has finally been possible to start human trials: and the first data already seem to confirm the validity of the idea.

Argon in case of cardiac arrest: Prof. Ristagno's explanation

'After a cardiac arrest,' explains Giuseppe Ristagno, who is also Associate Professor of Anaesthesia at the State University of Milan, 'there is a serious lack of oxygen which, among other things, endangers our neurons, sending them immediately into distress.
In our studies on animal models, we saw that the mortality rate after cardiac arrest was 70%; treating subjects with Argon gas, however, the percentages were reversed: 70% of the animals survived, and with complete neurological recovery.
This is another reason why it is extraordinarily important to have started testing Argon on humans: if confirmed, this new technique has the potential to revolutionise the treatment and outcome of cardiac arrest'.

Argon's name derives from the Greek word 'argos' meaning lazy: it is in fact an inert gas, i.e. it is extremely stable and reacts unwillingly with other chemical elements
It makes up almost 1% of our atmosphere: it is therefore very abundant in nature and extremely cheap to use.

But if it is so inert, how does Argon protect neurons?
'It has been discovered,' continues Ristagno, 'that this gas actually has a direct action on the membranes of the mitochondria, which are the 'energy powerhouses' of all our cells.

When there is a shortage of oxygen, the mitochondria in neurons are the first to suffer, subsequently leading to the death of the cells containing them.

Argon, on the other hand, seems to make the mitochondria more resistant to temporary oxygen deficiencies: in practice, it protects the neurons and buys them precious time, so that they can overcome the consequences of cardiac arrest as unscathed as possible'.

The study that has just begun at the Policlinico di Milano is a Phase I-II: there are four phases for the authorisation of a new therapy, and they all normally take several years together.

For the next few months, the experts will use this gas on 50 well-selected patients, to demonstrate the feasibility of this innovative treatment as well as to investigate its efficacy.

"The idea is to continue the study also in collaboration with other facilities, to accelerate the recruitment of patients and to verify the effectiveness of this therapy: we expect on humans an improvement in neurological recovery of up to 40%, compared to untreated patients.

'Our job is to bring basic research to the patient's bedside,' concludes Ezio Belleri, General Director of the Policlinico di Milano, 'and this study really demonstrates this.

The impact of cardiac arrest on the patient, his or her family, and on the health and social system is enormous: not only because of the costs linked to the long hospitalisation, the consequent disabilities, and the long-term therapies.

But also because the whole family is overwhelmed in its daily life, with a considerable cost also from a psychological point of view.

In Italy there are 60 thousand cardiac arrests every year: therefore, being able to protect the brain as much as possible from such serious damage can radically change the prospects of treatment for an event that is unfortunately still very common'.

AUSTRALIA, AMIT WINS PANASONIC DEPLOYMENT WITH SA AMBULANCE SERVICE (SAAS)

Sydney-based vehicle mobility specialist Advanced Mobile IT (AMIT) has won a contract to overhaul South Australia Ambulance Service's (SAAS) communications equipment

As part of a $1.2 million investment, AMIT will deploy 300 new Panasonic mobile data terminals (MDTs) to replace the existing Motorola MW810 devices used by the ambulance service

Rollout of the new devices across SAAS has commenced, with all 300 mobile data terminals scheduled for completion by 2023.
"MDTs are essentially computers in our ambulances that provide all the latest information between our Triple Zero call centre and on road crews," said interim executive director of state-wide operational service Kate Clarke.
"Without MDTs, our service delivery would be significantly impacted, so it is crucial we have the latest technology to ensure optimal performance with our call taking and dispatch systems.
"The new devices will also allow further innovation that to this point has not been possible. It places SAAS in a great position for the future." The contract win is AMIT's first with SAAS, having already supplied technology to ambulance services in Victoria, New South Wales, Tasmania, Northern Territory and Papua New Guinea It has also supplied tech for SA Police and the South Australian Country Fire Service (CFS).

In addition, AMIT won a major deal last month to integrate Fire and Rescue NSW's vehicle communications hub solution which includes Cobham 323 satellite unit, Motorola APX8500 radio bricks with Sierra MG90 router and Motorola GNX6 (vehicle telemetry) units into the fire trucks.

FORMULA GUIDA SICURA: INNOVATIONS AND FEATURES OF THE VOLKSWAGEN CRAFTER VEHICLE

Formula Guida Sicura tells us about the Crafter vehicle made by the Volkswagen car manufacturer: features and advantages of the rescue vehicle Volkswagen, the historic German car manufacturer, has launched the Crafter vehicle in the world of rescue and emergency services

An innovative vehicle with advantageous solutions that facilitate the work of rescue associations, the Crafter is spacious, safe and comfortable.

Telling us about the vehicle's special features is Danilo Tonani, manager of Formula Guida Sicura, one of the most important companies in the world of rescue drivers. "We,' explains Danilo of Formula Guida Sicura, 'tested the version of the Volkswagen Crafter vehicle with the automatic transmission.

It is a model that is particularly suited to being fitted out as an ambulance: being equipped with a very gradual and very progressive gearbox, it is remarkably comfortable for patients who are going to suffer vibrations during transport, especially during emergencies."

"In emergencies, in fact, the driver is always under stress, with considerable psychological pressure, and therefore, the driver can tend to release the clutch very gradually, causing the ambulance to oscillate a lot.This aspect is completely eliminated with the automatic transmission."

Danilo Tonani: "The Crafter vehicle with the automatic transmission is a very gradual vehicle despite the fairly powerful engine"
"At the same time, however, the moment we switch to the sequential gearbox, the vehicle becomes much more decisive and snappy."

"Then, of course, depending on the set-up that is done, the space inside also changes." "If it is equipped by an outfitter who tends to put everything up, you will have more sway when cornering.

If, on the other hand, the outfitter tends to set up the sanitary compartment and half of the cell at the bottom, you will have less sway." "Obviously, associations choose their ambulances according to their needs.

An association operating in the narrow streets of a small town centre tends to prefer a much smaller ambulance, such as a T6." "Whereas for an association that mainly does motorway work, the Crafter will definitely do."

"Unsuitable for associations that do interventions on narrow roads and in historic town centres, the Crafter is adequate for those who, on the other hand, deal with emergencies in the city or outside."

"Among the advantages of the Volkswagen vehicle is the sanitary compartment, which is normally very high and very spacious." "The suspension is also very good: we have seen that the vehicle absorbs well if the road surface is uneven, which, by cushioning the blow, is a great advantage for people who are rescued and have fractures."

"Furthermore, the Crafter, having a very high working position and being the tallest in its class, allows a good view in the middle of traffic.

Not only that, the width of the windscreen allows a very good view and the side pillars give little discomfort: they cover little if positioned correctly when driving."
"Finally, from the point of view of adjusting the driver's seat, here too there are several possibilities: the various modes of adjustment allow for correct positioning of the driver, suitable for any type of build."

ITALY, FIRES IN THE THERMAL IMAGING CAMERAS OF FIRE BRIGADE DRONES / VIDEO

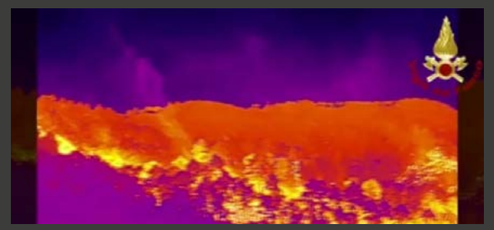
Year after year, drones are becoming more and more useful to those who have to deal with emergencies: the thermal imaging cameras of the Fire Brigade narrate in a video all the work our firefighters have had to cope with.
Versilia, the thermal cameras of the Fire Brigade's drones narrate the front line of interventions
Fires that have been raging for weeks, and which the Fire Brigade and Civil Defence volunteers have struggled to resolve.

On the Vigilidelfuoco.tv website, videos and images taken with the drones used in the fire monitoring operations and, following the containment and extinguishing of the flames, in the mapping of the affected areas have been made available.

Particularly striking are the images taken at night by the drone equipped with a thermal imaging camera, useful for understanding even in conditions of poor visibility the areas where the fires threatened to spread.

The video refers to the fire containment operations that took place in recent weeks in the area between Fibialla, Gualdo, Valpromaro and Piazzano (hamlets in the municipality of Camaiore, in the province of Lucca).

Initially flaring up in the area of Massarosa, the fire in Versilia then spread to the neighbouring localities of the municipality of Camaiore, creeping even to the border of the municipality of Lucca. Overall, more than 1,000 people were evacuated for safety reasons and hundreds of hectares of forest went up in smoke.



ICELANDIC SEARCH AND RESCUE ASSOCIATION LAUNCHES ITS FIRST BOAT, A KEWATEC SERECRAFT SAR 17

Kewatec: a year ago, an agreement was signed with the Icelandic Search and Rescue Association (ICE-SAR, Slysavarnafélagið Landsbjörg) on three deliveries of Search- and Rescue boats

Kewatec: the first of the boats has been launched for testing

The boats are about 17-meter long, fast, self-righting Kewatec Serecraft SAR 17 model Search- and Rescue boats. Their construction started in Kokkola at the end of October last year, the first of which will be delivered at the end of the summer.

Jesper Häggblom, Project Manager at the Kewatec shipyard

"The project has advanced well thanks to diligent employees.

The launch was a success despite the traffic jam with several boats at the dock this summer.

Next, it is intense and exciting tests that apply."

Search and Rescue Association Slysavarnafélagið Landsbjörg, ICE-SAR is a national association of rescue units and accident prevention divisions.

Its member organizations include 99 rescue units, 70 accident prevention units, women's sections, and 50 youth units.

The association has a total of approximately 10,000 volunteers and operates in most Icelandic cities.

FLIR THERMAL IMAGING CAMERAS: INSIGHT FIRE TRAINING TIPS

FLIR, the world's leading manufacturer of thermal imaging cameras and therefore highly valued by rescue and firefighters, presents some key features of these special cameras

After the introduction of innovative thermal imaging cameras and the Ignite Cloud Service, FLIR gives us some important explanations on how they are used, especially for the benefit of firefighters
And it does so through Andy Starnes, the founder of Insight Fire Training, the US company that provides training for firefighters around the world on how to use thermal imaging cameras.

In thermal imaging, and therefore in FLIR cameras, as Insight Fire Training explains, the two most critical attributes are emissivity and distance to spot ratio.

However, these two areas are often overlooked, misunderstood, or shared completely incorrectly with firefighters. For example, on the FLIR camera, many firefighters tend to read only the numerical temperature reading in the bottom right corner of the viewfinder, otherwise known as the 'spot temperature' or direct temperature measurement.

This is a rather dangerous issue: the spot temperature is a numerical representation of the average of a certain number of pixels within the focal point (or viewfinder) of the thermal imaging camera at a distance preset by the manufacturer. This spot temperature is not an accurate representation of the overall environment.

As can be seen from the first photo, the focus is obviously warmer than 240 degrees Fahrenheit.
But the 240 degree spot temperature of the back wall is a rough calculation of the average pixel temperature within that spot, not an accurate representation of the general environment.

Looking at both photos, one can then see that the environments could be at a temperature higher than 500 degrees Fahrenheit.

In specific jargon, this is what is called 'reading the palette'. Firefighters are required, in this case, by means of the FLIR camera, to look at the overall picture
That is, they have to look at the overall incident and see the overall thermal environment.

Spot temperature, illustrates Andy Starnes of Insight Fire Training, is to be used for individual diagnostics (such as overhaul, detection of overheated components, etc.) and not for strategic decision-making.

The spot-to-spot distance ratio can be defined as the ability of the thermal imaging camera to successfully measure a spot temperature (the viewfinder or focal point) from a specific distance.
The effective range that most ICTs, including the FLIR thermal imaging camera, measure accurately is at the focal point, which is typically a 12-inch square.
This can be compared to a torch beam.

As you get closer to the wall with the torch, the beam becomes clearer and more precise.
Whereas, as one moves further away, the spot becomes larger and therefore less precise.
An individual with a TIC should be aware of the distance-to-point ratio of the TIC in order to accurately diagnose the thermal environment and read the entire image, not just the spot temperature.

There are two types of thermography in use today: quantitative and qualitative

We speak of quantitative type when the end user is looking for exact measurements where the parameters can be adjusted to match 2 degrees Celsius.

Whereas, qualitative thermography reads what are known as apparent temperatures, which are estimates due to the lack of adjustment by end users for the following parameters:

A) Focus

– Distance
– Emissivity
– Temperature range

B) Reflected apparent temperature

– Transmissivity
– Ambient temperature

C) Atmospheric attenuation (humidity, wind, etc.).

Furthermore, many firefighters and researchers fail to understand that firefighters' ICTs are not radiometric devices.

This means that the data is not stored as a radiometric jpeg or video that would allow someone to analyse each pixel as a temperature measurement.

This is the norm for an industrial thermal camera, and therefore also for the FLIR camera, used for quantitative thermography
For example, a firefighter observing a structure at 30 feet can see temperatures at 71 degrees, but when within 10 feet the temperatures are 300 degrees.

This is because IR energy dissipates due to distance and other factors along with the ICT's ability to effectively 'see' within a certain distance. In general, the longer the distance-to-point ratio, the better the resolution. Firefighters must remember that this measurement is an average of the pixels within that area and, unlike typical thermography-based measurements, there are many variables between the firefighter and the target that, as mentioned earlier, can affect the accuracy of this measurement.

Note on the following slide how the temperature measurement can vary depending on emissivity.

If a firefighter is viewing a stainless steel refrigerator and has a spot temperature reading of 200 degrees Fahrenheit, the actual temperature would be 563 degrees Fahrenheit.

Notice in the Max Fire Box video, what happens when we point the TIC as the shiny diamond-plated surface compared to the inside of the box itself.

In short, low-emissivity objects cannot be trusted.

A firefighter must learn to interpret the image present, in this case on the FLIR camera, based on his knowledge of what he is looking at with a solid understanding of the limitations of what he is looking at.

ITALY, FIRES IN CARSO AND VERSILIA: OVER 200 FIRE BRIGADES IN THE FIELD WITH 55 VEHICLES

Operations continue for the extinction of forest and interface fires that have been engaging the fire brigades on the Gorizia and Trieste Carso since yesterday morning
Fires on the Carso, the intervention fronts of the Fire Brigade

On the active firefronts, at Devetaki, Sablici, Jamiano in the municipality of Doberdò del Lago, in the province of Gorizia, and Medeazza in the municipality of Duino Aurisina, in the province of Trieste, 100 firefighters with 25 vehicles are at work, operating with the support of two Canadairs and a helicopter of the National Corps' air fleet.

At the moment, the fire is not yet under control and precautionary evacuations are underway around the Jamiano settlement.

Not only on the Carso: the extinguishing operation also continues in Versilia, particularly on the Massarosa hillsides
Over 100 firefighters with 30 vehicles are in action between the hamlets of Chiatri, Fibialla, Pieve a Elici, Montigiano, Gualdo, Val Promaro and Piazzano.

In the latter locality, the teams stopped the advance of the flame front, avoiding the involvement of the inhabited centre, which had already been evacuated as a precautionary measure.

Over 800 hectares of forest have gone up in flames in these long and dramatic hours.

Teams from the Florence, Pisa, Livorno, Massa Carrara, Grosseto, Siena and Arezzo commands and extra-regional reinforcements from the Turin, Cuneo, Varese, Cremona and Bologna commands are still operating in support of the local emergency services.

Currently, the work of the ground teams is concentrating on the Gualdo area, where a Canadair and a National Corps helicopter have been in the air since the early hours of the morning.

UK, LONDON FIRE BRIGADE: LONDON FIRE ELECTRIFIES FLEET

London Fire Brigade is investing in the development of an electric-hybrid fire engine as part of its commitment to significantly reduce carbon emissions, supporting the Mayor of London's ambition for London to be net zero carbon by 2030 and build a greener and safer city for everyone
The Brigade is currently working with Emergency One, a UK manufacturer of specialist fire and rescue service appliances, to build a Zero Emission Capable Pumping Appliance (ZEPA1).

The London Fire Brigade will be the first fire and rescue service to use an electric-hybrid fire engine when it is due to start being trialled later this year
The Brigade is a leading voice in calls for innovation to help fire and rescue services and other organisations decarbonise their heavy fleets and it is hoped the project will help grow the market for zero emission specialist vehicles in the UK's emergency services.

Developing zero emission solutions for fire engines is particularly challenging as they have demanding performance requirements – not only do these heavy vehicles have to attend incidents as soon as possible, but they also have to be able to pump water for long periods of time and transport equipment and machinery to deal with fires, flooding and other incidents.

This announcement comes during London Climate Action Week where there is a huge focus on finding new ways to create a sustainable Net Zero London. It follows years of work to reduce the emissions from the Brigade's fleet and support electric and hybrid vehicles.

A total of 96% of all the Brigade's buildings have electric vehicle charge points, with 242 charging sockets. A further three fire stations have publicly accessible rapid charging.

There are more projects to further reduce emissions from the London Fire Brigade's vehicle fleet

A project is underway to assess the use of Hydrogenated Vegetable Oil in existing fire engines that are fuelled from the Brigade's bulk fuel tanks.

It is expected that this could contribute a carbon emission saving of 24% from fleet fuel consumption. This work is also being supported by a project on-going to replace the fleet of electric-hybrid cars with 50 fully electric vehicles.

London Fire Commissioner Andy Roe said:
"Our first priority is always to ensure the Brigade provides a first-class prevention, protection and emergency response service for London.
"But for some time we have been looking towards a more sustainable future and working to identify the challenges and solutions to ensure that we as a fire service can move to a zero emission fleet.

"ZEPA1 is a very big and exciting step for us and the whole of the UK fire service and we are incredibly proud to be part of the innovation that will lead to the UK's first electric-hybrid fire engines at one of our fire stations.

"It is hoped that in leading the way on developing an electric-hybrid fire engine, the project will help drive and grow the market for zero emission specialist vehicles in the UK's emergency services and particularly in the fire service."

The Mayor of London, Sadiq Khan said:
"It's fantastic to see London Fire Brigade driving innovation among fire services across the country by supporting the UK's first electric-hybrid fire engine.

"I am passionate about tackling the climate crisis, which is why London is leading the world in taking bold action to reduce carbon emissions, with a commitment to make our capital zero-carbon by 2030. I am determined to build a greener and safer city for everyone."

WATER RESCUE: DROWNING FIRST AID, DIVING INJURIES

Drowning occurs when the patient's airway is filled with water, preventing air from passing into the lungs. Drowning may not end in death if the water is removed and respiration is restored in a timely manner
A submersion incident can result in nothing more than a cough; more serious injuries can present with vomiting, difficulty breathing, respiratory arrest, and cardiac arrest.

If a patient is still in the water on arrival, remember that your first priority is your personal safety and the safety of your crew.

Look for dangerous situations that may have lead to the patient drowning in the first place.

Assessing the quality of the water and the container it is in will clue you in to most potential hazards.

Drowning, the recommended water rescue model:
Reach- if the victim is close enough to shore. You can use an oar, pole, branch, or another rescue device if you can't reach them with your hand.

Throw- a flotation device attached to a rope so the victim can be pulled to shore.

Row- if the previous methods are unsuccessful or the pt is unconscious, trained rescuers should row out to the pt if a boat is available.
Go- if a boat is unavailable and the reach and throw methods don't work, trained rescuers should go to the pt by wading or swimming.

Management of a drowning patient
The management of a drowning patient is focused around assessing for any co-dominant injury, controlling the ABC's, and preventing further complications. If the patient is still in the water and you suspect a spinal injury, manually stabilize the neck and spine.

If the patient is adequately breathing on his/her own, place him/her in the recovery position, and administer oxygen.

Use a backboard to roll the victim partially on his/her side so that aspiration can be avoided if the patient vomits; use suctioning as necessary to clear any visible fluids from the airway.

If an AED is available, it is safe to discharge the unit if indicated as long as the patient is not in standing water.

New AHA guidelines advise starting chest compressions and rescue breaths in a 30:2 ratio at a rate of at least 100 compressions/min regardless of respiratory status, According to the AHA;

"As soon as the unresponsive victim is removed from the water, the rescuer should open the airway, check for breathing, and if there is no breathing, give 2 rescue breaths that make the chest rise (if this was not done previously in the water). After delivery of 2 effective breaths, if a pulse is not definitely felt, the healthcare provider should begin chest compressions and provide cycles of compressions and ventilation according to the BLS guidelines."

Nitrogen narcosis

Results from a mix of gas in air tanks that has a high percentage of nitrogen. The symptoms of nitrogen narcosis are largely identical to alcohol intoxication. The management of this condition is limited to the application of oxygen and ruling out the presence of decompression sickness.

Squeeze injuries occur when pressure is placed on the face by a diving mask due to failure to exhale through the nose while diving, causing significant pressure to be placed on the eyes, sinuses, and facial bones. This can result in nosebleed, eye injury, or sinus damage.

WHEN TO USE THE DEFIBRILLATOR? LET'S DISCOVER THE SHOCKABLE RHYTHMS

A heart attack is an extreme situation that requires preparation and timing. A cornerstone of intervention lies in the concept of shockable rhythms
Ventricular fibrillation and pulseless ventricular tachycardia are shockable rhythms
When can the defibrillator be used? Let's delve into this together.

Sinus rhythm
When at rest, the heart beats at a regular rhythm between 60 and 100 beats per minute: this is the sinus rhythm.

When an alteration of the normal heart rhythm occurs, it is called an arrhythmia.

In most cases, arrhythmia does not pose a serious danger, but some malignant arrhythmias can alter the circulation so profoundly that they cause cardiac arrest.

Cardiac arrest is a dramatic and sudden event that today causes the death of 60,000 people every year in Italy.

Its severity, combined with the speed with which it strikes, leaves little room for intervention by anyone in the vicinity.

For this reason, cardiac arrest is also called Sudden Cardiac Arrest or Sudden Cardiac Death, precisely because it occurs without warning and unexpectedly.

But what happens with cardiac arrest? The heart begins to beat at a dangerously high speed to the point of vibrating and stops pumping blood to the body and brain.

This leads to a rapid loss of consciousness and breathing: these are the two symptoms associated with cardiac arrest.

If action is not taken within a few minutes with cardiopulmonary resuscitation and a semi-automatic external defibrillator, the affected person will die.

However, the use of the AED is not always indicated, as not all cardiac rhythms associated with cardiac arrest are shockable
Shockable rhythms are characterised by alterations in rhythm that cause the heart's pumping activity to be absent.

In these cases, the only effective treatment is electrical defibrillation.

The defibrillatable heart rhythms are ventricular fibrillation and ventricular tachycardia.

Ventricular fibrillation (VF) is an arrhythmia characterised by rapid, ineffective and irregular contractions of the ventricles.

Without a proper contraction capable of pumping blood into the circulation, there is a risk of severe impairment of cardiac output.

This is why ventricular fibrillation is considered one of the main causes of cardiac arrest.

This arrhythmia can be fatal if action is not taken within a few minutes with a defibrillator: the defibrillator, by means of two pads placed on the chest, delivers an electric shock that attempts to restore the heart's normal beat.

Ventricular tachycardia (VT) is an arrhythmia characterised by a high heart rate (greater than 100 beats per minute).

The arrhythmia may last for only a few beats, but if it lasts longer, it represents a real medical emergency, as the heart is unable to pump blood adequately.

Ventricular fibrillation and ventricular tachycardia are the most frequent initial rhythms in out-of-hospital cardiac arrest (70-90%) and their only effective treatment is defibrillation.

Indeed, cardiopulmonary resuscitation succeeds in bringing oxygen to the brain cells and can prolong the duration of defibrillable rhythms.

However, it cannot convert a defibrillatable rhythm into a valid rhythm: only a manual or semi-automatic defibrillator can use electric shocks to restore normal rhythm.

The prognosis in the case of a shockable rhythm is therefore much more favourable than for non-shockable rhythms.

However, action must be taken as soon as possible because the chances of rescue decrease with time (7-10% every minute) and a shockable rhythm quickly degenerates into a non-shockable rhythm.

Asystole and pulseless electrical activity are Non-Shockable Rhythms

Non-Shockable rhythms are Asystole and Pulseless Electrical Activity.

These two arrhythmias are usually caused by acute situations of extreme severity and are difficult to treat.

Ventricular asystole represents the total absence of ventricular electrical activity corresponding to the absence of contraction of the ventricles.

There is no blood supply to the brain and, if resuscitation manoeuvres have no effect, it leads to death.

Pulseless electrical activity (PEA) is a cardiac arrest situation in which electrical activity is present in the heart (visualised on the ECG electrocardiogram) but any palpable pulse is absent.

With this arrhythmia, some mechanical contractions of the heart may occur, but these are too weak for an effective cardiac output.

In both cases, analysis of the heart rhythm (which with a semi-automatic defibrillator is provided by the device itself) will indicate that shock is not advised and that cardiopulmonary resuscitation should be initiated immediately.

WIDE GROUP SPA AT THE SERVICE OF VOLUNTEERS: INSURANCE SOLUTIONS ON EMERGENCY EXPO

We welcome Wide Group SpA, the company offering insurance solutions for the world of rescue and emergency, to Emergency Expo
Wide Group SpA offers insurance solutions to help Third Sector organisations in the protection and safety of their volunteers

And exhibits them, to our great pleasure, at Emergency Expo, the 3D virtual exhibition dedicated to emergency and branded Roberts.

A leader in Italy for the opportunities offered to the Third Sector, Wide Group SpA is a broker specialising in the design and drafting of "ad hoc" policy tests for the world of volunteering, with particular reference to the emergency and rescue sector.

Aimed at all E.T.S (Entities of the Third Sector) – as per Art.4 of Legislative Decree no. 117 of 3 July 2017 – the services offered by Wide Group SpA are provided for Volunteer Organisations, Associations of Social Promotion, philanthropic entities, social enterprises (including Social Cooperatives), Associative Networks, Mutual Aid Societies, Associations (recognised and not), Foundations and all entities of a private non-profit nature.

Wide Group, at the Emergency Expo stand you will find:
- RCT/RCO including MedMal
- Accidents and illnesses, including Body Fluids – Meningitis – Covid19
- Directors' Liability
- Legal Protection
- Cyber Risck
- Real estate
- All Risks Damage to vehicles, electromedical equipment
- Canine units

Headed by Andrea Porro, a volunteer and "long-standing" expert in the sector, Wide Group SpA's non-profit team has been disseminating the insurance culture in the world of volunteering for over 14 years.

Thanks to the direct experience on ambulances, in Civil Defence and in the world of volunteering of our broker partners and internal collaborators, Wide Group provides exclusive insurance cover for the Italian market.

With several offices in Italy, the company is present in the cities of Biella, Bologna, Bolzano, Brescia, Milan (headquarters of the Non-Profit Division), Padua, Rome, Reggio Emilia, Treviso and Verona.

Wide Group SpA is the first in Italy to have introduced insurance cover for the extended contagion and non-self-sufficiency of volunteers

With the aim of safeguarding the safety and protection of human life, the experienced insurance brokerage company designs innovative solutions to meet the real needs of Volunteers.

Every year, Wide Group's mission is to present a new project, the result of analysis and study by the expert team of Insurance Manager Wide, which can give additional peace of mind and serenity to the activities carried out by thousands of Volunteers.

DEFIBRILLATORS: WHAT IS THE RIGHT POSITION FOR AED PADS?

Public and private places have become littered with an essential and welcome piece of equipment, the defibrillator. But how should AED pads be positioned?
Of course, defibrillators come with simple and detailed instructions, and certainly the operator of the emergency number will know how to guide the citizen in those manoeuvres that are so important in cardiac arrest, but let us look together at one of the first operations of defibrillation, the positioning of the pads.

The positioning of the pads is an extremely important step for successful defibrillation.

How to apply the pads of the AED semiautomatic external defibrillator

- Remove the clothing from the patient's chest. To make it quicker, it may also be necessary to cut them off.
- The two defibrillator electrodes should be placed on the patient's chest, which should be clean and dry.
- If the victim is wearing metal jewellery or accessories, these must be removed, as they conduct electricity.
- In the presence of a hairy chest, if you have the opportunity, you should shave the chest where the pads will be placed. This is because the presence of too much hair would not make the plates adhere properly to the chest.
- If the person is wearing a bra, this must be removed before placing the defibrillator pads.

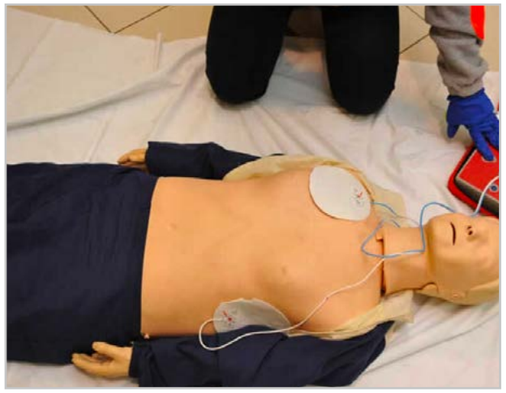
Once the paddles have been removed from their casing, they should be connected to the defibrillator (in some models they already are). Then the protective film must be removed from the back.

AED paddles position
Most defibrillators have a picture on the back of the electrodes indicating the precise location on the chest where they are to be applied.
The standard position of the electrodes, called anterolateral, involves:
- The first electrode applied under the right clavicle to the side of the sternum.
- The second electrode in the middle of the middle axillary line at the height of the fifth intercostal space, to the left of the nipple.
However, it is not always possible to place the electrodes in this standard position.

For example, in the presence of pacemakers or bleeding right at the electrode placement site, two alternatives can be used, but they are less effective:
The latero-lateral position: the two electrodes applied on the side walls of the chest.
The antero-posterior position: one plate placed on the back, under the left scapula, and the other anteriorly, to the left of the sternum.

For paediatric patients, however, the position of the pads depends on the plates themselves:
- if the defibrillator is equipped with paediatric paddles, then the standard anterolateral position can be maintained.
- If only adult electrodes are available (which are too large for the child's chest), the paddles must be applied in the antero-posterior position. Then apply one plate on the back (under the left shoulder blade) and the other anteriorly (to the left of the sternum).

Once the pads are applied, the AED defibrillator asks the rescuer not to touch the patient in order to analyse the heart rhythm and detect the



presence of abnormalities
During this analysis phase, it is the defibrillator itself that will decide whether or not it is necessary to deliver an electric shock to the heart. The defibrillator can provide two indications: 'recommended discharge' or 'not recommended discharge'.

In the case of a shockable heart rhythm, you will be asked to press the shock button: before delivering the shock, make sure that no one is touching the person suffering from cardiac arrest.

Press for shock and listen to the defibrillator's instructions, which will eventually ask you to start CPR again until the next analysis (approx. 2 minutes).

In case of a non-shockable heart rhythm, after the analysis the defibrillator gives voice prompts and will eventually ask you to start CPR again until the next analysis (approx. 2 minutes).

THE 12 SIGNS THAT INDICATE POOR CIRCULATION THAT SHOULD NOT BE UNDERESTIMATED

Problems with poor circulation? Every day, our bodies work incessantly to transport nutrients, hormones, oxygen, aiding the function of organs and other vital bodily processes, and this is done through the circulation of blood, which has a prominent place in our survival. Arteries and veins are like highways that make this possible

Like common infrastructure, however, these highways require maintenance in order to function properly.

That is why it is important to pay attention to the smallest signs of malfunctioning that can hide more serious problems than we think. There are various lifestyle habits, medical conditions and bad behaviour that make an individual susceptible to circulation problems: we are talking about a smoking habit, pregnancy, eating disorders, for example.

Circulation problems can affect people of all ages and if left untreated can cause serious damage to the body

Here are some signs and symptoms that should not be underestimated.

1) Leg or foot ulcers. Ulcers are skin lesions that can have several causes. Poor circulation can be one of them. They are very painful and present as an inflammation accompanied by a kind of rash that does not want to go away. They begin to appear as red patches that gradually grow in size.

2) Swelling. Hands and feet begin to swell due to the slow flow of blood.

not have the correct oxygen supply, so it starts to look whiter, almost cyanotic. Areas furthest from the heart (feet and hands) may appear blackened.

4) Varicose veins. The valves that work to pump blood become weakened. This causes the veins just below the surface of the skin to start twisting and swelling. The symptom may be accompanied by itching or pain after sitting or standing for too long.

5) Hair loss and weak nails. Like the skin, hair and nails do not get the right amount of nutrients as a result of poor circulation. Hair can become dry and start to fall out. Skin can also become much drier and itchy, and nails tend to weaken and flake easily. Nails can actually say a lot about your health.

6) Digestive problems. With less blood pumping through the body, all other functions also slow down. When digestion slows down, constipation sets in;

7) Weakening of the immune system. Antibodies are slower, sluggish, and the possibility of getting sick increases. Wounds also heal more slowly.

8) Cold hands and feet. When the blood flows at an optimal speed, it helps to keep the body temperature at a healthy and comfortable level. If circulation is slow, the temperature regulation process is disturbed and this causes cold feelings, usually in the hands and feet;

9) Tiredness. With poor circulation, muscles become deficient in oxygen and nutrients, which are needed to work well. Breathing becomes more laboured, muscles are sore and there is less resistance when performing daily activities.

10) Erectile dysfunction. In men, circulation problems may lead to insufficient blood flow to the reproductive organs.

11) Poor cognitive function. Brain functioning relies heavily on blood flow. Less oxygen and blood means less concentration. Poor circulation can also affect the effectiveness of short- and long-term memory.

12) Feeling numb. Stagnant fluid generates numbness and tingling in the limbs that can last up to a few minutes.

As you can see, poor blood circulation can affect your body significantly. Treating the symptoms can bring relief, but it is necessary to solve the problem at the feint.

WHAT IS CHOKING? CAUSES, TREATMENT, AND PREVENTION

Choking happens when something—food or another item—is caught in the back of the throat. If the object (or food) blocks the top of the trachea a person may be unable to breathe

This is an emergency. It is also possible that food or other things can get stuck in the esophagus; while painful, this does not cause a person to stop breathing.

Causes of Choking
Certain medical conditions or circumstances can make a person more likely to choke. Risk factors include (but are not limited to):

- Children under the age of 5 1
- The elderly
- People with neurological illnesses
- People with diseases that cause muscular degeneration, such as multiple sclerosis
- Disorders of the esophagus such as a narrowed esophagus due to chronic acid reflux (GERD)
- People with anatomical genetic abnormalities that affect the swallowing process (cleft lip for example)
- People with injuries that affect the swallowing process

Additionally, certain activities or habits can also increase your risk of choking:
- Eating too quickly
- Not sitting down while eating
- Not chewing food properly
- Eating while lying down

Prevention
Children under the age of 5 have an increased risk of choking.Both cognitive development and anatomic differences in children cause an increased risk in this age group. Small children lack the ability to differentiate what objects may get stuck in their throats.
This is often during their oral phase of development when they put everything into their mouths.
As your child gets older, they still remain at risk due to their smaller airway.
The risk, however, decreases because cognitively, they become more aware of which items are safe to put in their mouths.
While completely child-proofing your home is near impossible, keeping certain objects away from small children can go a long way toward preventing choking.

Similarly, older people also have an increased risk of choking. Choking in the elderly can be caused by a loss of muscle strength in the throat and weaker or missing teeth.
Older people should take smaller bites and make sure to chew food thoroughly. Eating slowly and removing distractions from the eating area can also help reduce the risk of choking.

Common Choking Hazards
- Latex balloons – leading cause of death in children under the age of 6
- Balls
- Marbles
- Coins (18% of choking-related ED visits for children 1 to 4 years old)5
- Disc batteries (also called button batteries and are especially dangerous because when swallowed there is a possibility they will leak toxic alkaline contents into the digestive tract.)
- Small toys – some say that if an object can fit inside a roll of toilet paper your child can choke on it.
- Caps (pen or marker caps especially)
- Safety pins
- High-Risk Foods
- Hot dogs – most common fatal food-related hazard
- Hard candy – (19% of choking-related emergency room visits)
- Grapes
- Nuts
- Raw carrots
- Apples
- Marshmallows
- Popcorn
- Peanut butter

Approximately 60% of non-fatal choking hazards are caused by food items.6

Foods that are choking hazards are foods that can be compressed to fit the size of the airway.

In addition to the foods listed above, you should not give a small child, elderly person or any individual who has difficulty swallowing, foods that are difficult to chew or are a size or shape that will easily become compressed in the airway.

Supervision is also one of the single most important factors to help prevent choking.

One hundred percent supervision is usually not possible but should be implemented as much as possible when children under 5, elderly persons, or a person with a history of swallowing difficulties are eating.

Keeping small objects out of reach and purchasing appropriate age level toys can also help prevent non-food related choking.

Also, not allowing children to run and play while eating food or candy can help prevent choking on food.

Some other good prevention tips include:
- Eating food only at the table
- Cooking vegetables until they are soft
- Cutting hotdogs and other food items into pieces that are less than 1/2 inch and avoid cutting into round shapes
Encouraging adequate chewing – this might not be mastered until your child is 4 years old
- Limiting distractions while eating
- Having a drink available while eating – avoid swallowing food and liquid at the same time
- Some individuals with swallowing problems (dysphagia) should only drink thickened liquids

What Should I Do If Someone Is Choking?

If someone is choking, you should determine whether or not they can talk.

If they can talk, cough or make other noises that indicate air passage, let them clear their airway on their own.

Intervention at this point may cause further lodging of the object to occur.8

If an individual has something caught in the esophagus they will still be able to speak and breathe but it may be painful, especially when swallowing.

They may also drool. You should seek medical attention so the object can either be retrieved or pushed into the stomach/intestines using a scope (EGD).

The Heimlich Maneuver

If the person choking is not able to speak or make other noises, they will not be able to breathe either.

An indication that a person is not breathing is cyanosis.

This is an emergency. You should start abdominal thrusts, also known as the Heimlich maneuver.

To perform the Heimlich maneuver, follow these steps:
- Stand behind the person who is choking. Put one leg between the person's legs.
- If the person is a child, make sure you are at their level with your head to one side.
- Wrap your arms around the person and place the thumb side of your fist just above their belly button.
- Grab your fist with your other hand. Thrust quickly into the person's stomach in an upward motion.
- Do this five times. Repeat until the object is expelled.
- If the object is not expelled and the person loses consciousness, begin CPR.

CPR
If the person at any point becomes unresponsive (unconscious), you should begin CPR. If you are not alone, have someone else call Emergency Number.

If you are alone call Emergency Number immediately and (if possible) stay on the line while performing CPR.

Follow these steps:

Place the person on their back.
Place one hand on the person's chest directly between the nipples. Place the other hand on top of the first.
Push hard and fast on the chest to a depth of about 2 inches. Make sure to lift your weight off the chest between compressions.
If you are trained in CPR, you should perform 30 chest compressions followed by two rescue breaths.
If you are untrained in CPR, you should perform only chest compressions (100 to 120 per minute).
Prevention is key when it comes to choking.

Educating yourself on common causes of choking can help prevent complications from occurring and keep your loved ones safe.

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HEALTH AND HEALTHCARE AT THE CLICK OF A MOUSE WITH NEW LAMI SOFTWARE

CHECK SINTOMI is Lami's new proprietary software that helps people make the right decisions about their health, through a mix of technology and scientific reliability

We are at the beginning of a new phase for healthcare, after two years in which the need for an overhaul of the system has become increasingly evident.

Staff shortages (due to the cuts previously made and the difficult recruitment of new professionals), obsolete and territorially non-homogeneous communication systems, long and complicated bureaucratic procedures: however confidently one may claim in retrospect that the entire structure has held up despite the difficulties encountered, the fracture that has been created may become fertile ground for implementing a true Copernican revolution.

"We need to rethink our healthcare system, starting with a simple yet overlooked concept," explains Davide Barenghi, CEO of Lami

"At the centre should not only be the figure of the doctor, on whose shoulders the whole burden of care is loaded (or sometimes unloaded), but an efficient and sustainable ecosystem must be designed and built that is able to make patients active and aware."

According to Deloitte's Outlook Salute Italia 2022, Italians evaluate the healthcare sector as a whole positively, but 43% believe that public provision has deteriorated over the past year.

And this is not surprising, given the data on primary care published at the end of last year by Il Sole 24Ore, which showed that in 2021 one and a half million Italians did not have a general practitioner.

A sector that is already lacking in general medicine, which lost 3,000 family doctors between 2013 and 2019 and will see the retirement of another 35,000 resources by 2027.

If moments of crisis can help change, the pandemic has accelerated the process of adopting digital tools, the use of which is still widespread.

According to the latest research by the Osservatorio Sanità Digitale (Digital Health Observatory), communication between health professionals and patients has increasingly seen the adoption of messaging apps: 79% of General Practitioners and 73% of specialists use these tools, which are mainly appreciated for their speed and ease of use.

Another datum to underline is how tele-phones, widely used during the first periods of the health emergency, have also been employed in the last year: 20% of GPs and 26% of specialists made use of them. (© Department of Management Engineering – Milan Polytechnic).

While this certainly represents a significant change compared to the past, it must be emphasised that the potential of these instruments is still very much underestimated.

In addition, a security problem arises, when 'unofficial' communication channels and apps are used.

"Telemedicine and digital tools should not be seen as a solution to a crisis situation such as the one we have been experiencing," continues Tommaso de Mojana, COO of Lami, "but rather as a great opportunity to be exploited, always bearing in mind that it is necessary to guarantee equity, accessibility and safety to all citizens.

LAMI: Check Sintomi was founded with the aim of bringing patients closer to primary care

Since its foundation at the end of 2020, Lami has offered healthcare services that could meet the demand, from citizens often left without any guidance or indication, for faster but reliable care.

With this in mind, Check Sintomi was developed, triage software that aims to guide people on their path to care.

The way it works is very simple: the patient enters a symptom, answers the questions elaborated by the algorithm and the tool identifies the possible pathology, providing information and indications on how to behave.

Check Sintomi identifies five personalised treatment paths:

- Need to contact Emergency Number through a direct call
- Need to go to an emergency room with geolocalisation of the nearest emergency room Possibility of an in-patient visit (urgent or non-urgent)
- Possibility of a televisit (urgent or non-urgent)
- Possibility to treat oneself at home (homecare) with indications on how to behave and on over-the-counter drugs/supplements to take

The software is developed on the basis of the American Schmitt Thompson medical protocol: the guidelines contain 2,000 symptoms and 4,000 clinical conditions, which are checked and updated annually on the basis of scientific evidence collected in numerous healthcare facilities worldwide.

The protocol is then validated by Lami's Scientific Committee, composed of a multidisciplinary medical team led by Dr Marco Baroni, a specialist in respiratory diseases and internal medicine.

The strengths of the system are several:

- the timely identification, on the basis of the scientific protocol, of telemedicine-eligible clinical cases, i.e. to be treated through telemedicine
- the possibility of booking video-visits, throughout
- the territory, and home visits, in the cities of Milan and Rome, through our portal;
the integrability of third-party platform modules for booking services and e-commerce for the sale of over-the-counter drugs and supplements.

The entire system relies on cryptographic technology: data are collected and processed in compliance with current privacy laws.

Prior to Check Sintomi, Lami released in March Lami-X, a virtual assistant that allows personalised check-ups based on a simple interaction

The tool has been used by thousands of users, thus confirming the widespread need for an approach to health that is not only easy but also quick and for tools that help with prevention.

"The symptom checker is a product in fieri," Davide Barenghi continues, "this does not mean that it is incomplete or ineffective, it is rather the first step of a path under construction that takes into account the needs of citizens.

Listening, interpreting and acting is our modus operandi.

There is a problem that needs to be solved: the first link between the citizen and the healthcare system, primary care, is in great difficulty.

We are convinced that help can come from automating certain processes and, given the ferment in the digital health sector, I cannot say that we are the only ones.

We do not presume to solve the situation alone, but we can contribute to a process that benefits the entire system.

The Lami team

Lami is an innovative start-up that wants to revolutionise the world of healthcare by offering integrated and holistic support to patients' needs with instant care services through software, video medical consultations, examinations and home visits.

In addition to the three founders of Lami, Davide Barenghi, Chiara Frigerio and Tommaso de Mojana, Lami has a scientific committee composed of a multidisciplinary team that guides the choice of professionals and the selection of the most innovative services and solutions.

TRAUMA DURING PREGNANCY: HOW TO RESCUE A PREGNANT WOMAN

Trauma and pregnacy: EMS providers should recognize that pregnant women who have suffered an injury should be evaluated by a physician in the emergency room

If the pregnant woman is having any symptoms related to shock, high-concentration oxygen should be administered.

Trauma and pregnancy: Keep left!
Pregnant women in the third trimester should be placed on their left side

- If a pregnant patient is placed on a spine board, it should be tilted to the left after the patient is fully secured to the board. Left-leaning takes the weight of the pregnant uterus off of the slightly-right-of-the-midline aorta and–especially–the vena cava, which has less wall musculature and is more susceptible to compression.

- Vena cava compression → decreased blood to the right side of the heart → less oxygenation (right heart) and stroke volume (left heart) → maternal hypotension → less oxygenation to the placenta → fetal hypoxia → fetal distress.

The pregnant patient's nausea is the 'canary in the mine' of trauma
If a maternal patient begins to get nauseated, you should suspect hypotension, due to anything from traumatic blood loss to simply being flat on her back (vena cava compression).

Pregnant patients can sustain all types of trauma and are especially susceptible to falls and physical abuse.

Trauma Effects Roll Downhill: Effects on Fetal Health
Trauma to expectant mothers can have effects on fetal health.

Normally, the changes that pregnant patients undergo that are important during trauma include

- cardiovascular changes and
- decreased gastrointestinal motility.

CARDIOVASCULAR:

Cardiovascular changes may include an increase in total vascular volume and an increase in maternal heart rate in the third trimester, causing shock in a third-trimester patient to be difficult to detect.

Third-trimester fetus size can affect venous return in pregnant patients lying flat on their backs.

GI: Decreased gastrointestinal motility increases the risk of vomiting and aspiration after trauma.

Fetal Distress

Fetal distress can be caused due to hypoxia or hypovolemia/shock of the pregnant mother.

ABRUPTIO PLACENTAE:

Separation of the placenta from the uterine wall may be a complication of trauma in the pregnant patient and may present with abdominal pain and often presents with vaginal bleeding.

This separation carries a high risk of fetal death.

The force of a trauma associated with abruption is due to the shearing away from the uterine wall at the placental/maternal interface there.

Arteries are disrupted and bleeding is brisk.

Fetal injury in the pregnant patient can also be caused by penetrating trauma, trauma from seat belts, and cardiac arrest due to trauma.

Any penetrating injury (knife, GSW) in the abdomen should be assumed to involve the fetus.

During traumatic incidents involving a pregnant patient, EMS providers must remember that there are actually two patients to assess. However...

The most common cause of fetal death in maternal trauma is maternal death (death of the "incubator").

Therefore, your primary focus is the mother.

Internal blood loss is difficult to assess in pregnant patients due to the signs of shock often being masked. This means that by the time signs of shock are apparent, your patient is further into the downward spiral than she appears!

Trauma management in the pregnant woman
EMS providers should treat the pregnant patient aggressively in the face of severe trauma.

IMMOBILIZATION: The pregnant patient with suspected spinal injury should be immobilized to a long spine board, with the board tilted to the left after properly securing the patient.

VAGINAL EXAM = HANDS OFF! The need for a vaginal exam may be present in pregnant patients involved in trauma, check for crowning if indicated but this is best performed at the receiving facility.

In the field, the only indication for a vaginal exam is to determine whether the baby is delivering, and that can be done by direct inspection.

FUNDAL HEIGHT: The size of the fetus (age of gestation in weeks) is important during the assessment of the pregnant patient involved in trauma but it is difficult to assess the fetus.

The following tips are useful, but few:

If you can feel the pregnant uterus through the abdomen, the patient is at least in her second trimester (12 weeks and beyond).

The top convexity of the uterus (the fundal "height") reaches the umbilicus at 20 weeks (halfway through the pregnancy of 40 weeks).

For every fingerbreadth above or below the umbilicus, you can add or subtract a week of gestation. However, this only applies within 5 fingerbreadths. For example, if the fundal height is 2 fingerbreadths below the umbilicus, she is probably 18 weeks gestation (out of 40). If 3 fingerbreadths above...23 weeks. Below 15 weeks and above 25 weeks, the inaccuracy makes this "guestimate" completely ineffective. All you can say above the umbilicus + 5 fingerbreadths is that she is most likely in her 3rd trimester.

Twins will throw this whole brilliant scheme off. If she's had prenatal care, she'll know if she has more than one baby; if she hasn't, anything's possible!

ABCs: During the management of pregnant trauma patients, EMS providers should

manage the airway and anticipate vomiting (have suction available),
assure bilateral breath sounds are present, keeping oxygenation levels high by administering oxygen via non-rebreather (100% SPO2), and assist ventilations if breathing is inadequate
circulation should be managed in the same way as other adult patients.

TRANSPORT:
Transport the pregnant trauma patient on their left side.

Consider ALS intercept or air medical resources in the event of major trauma to a pregnant patient.

Inform the trauma center early of the impending transport of a pregnant trauma patient.

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