

## **Care for people traumatized by the attacks**

### **How to take care of, support and understand them**

After the emotional shock of the first days that all victims and those around them have felt, what will happen to these people over the next weeks, months, years? How do we take care of them? How do we support the victims, their families, and also the witnesses of these attacks?

**The psychological care of every person affected by the attacks is essential.**

Atrocious terrorist acts are extremely traumatic events for all those who have been victims and all those who have been more or less directly involved: their relatives, those who have rescued them or have been witnesses of the attacks, without forgetting all those who have already experienced criminal acts and whose trauma was reactivated, and even all those who have been exposed to traumatic images and repeated information.

Psychological trauma is genuine neuropsychological injuries causing great suffering. They require immediate care, which is usually proposed as a matter of urgency in the framework of the medical–psychological emergency units.

However, psychotraumatic disorders frequently set in for a long time, sometimes for years, sometimes in a lagged manner, with severe repercussions on the health of traumatized persons. So it is imperative to continue to support and provide them with specialized care.

### **Psychologically resuscitate victims**

As a first step, traumatized persons need to be rescued, secured and protected from stress. It is necessary to calm their distress and to take them out of their state of shock and freeze. We have to psychologically resuscitate them, to help them to resume the course of their thinking, which was interrupted at the time of the trauma, to speak to them, to comfort them and bring them back into the human world.

They also need to be heard, supported and understood. It is important they can share their emotions, fears and questioning without feeling guilty, without feeling that they could be embarrassed or inadequate. Furthermore, they need to be informed about post-traumatic disorders, and they must be told that their reactions are normal and universal in such a situation of extreme violence.

To get rid of such trauma, to soothe such a terrible moral pain, and very often a feeling of guilt and torturing impotence (survivor's syndrome), is a time of repair and psychological integration. During this period one cannot escape elaborating, and putting into words and meaning everything that has been experienced and felt at the time of the attacks and after. One cannot escape elaborating on what happened, on the terrorists and their strategies, on the socio–political context.

The long and very heavy exertion of mourning is also to be carried out.

## **The trauma, a time bomb**

However, it is rare for victims to benefit from this accompaniment for a long time. Often the entourage, after a few weeks, no longer takes into account the victims' trauma and moral pain, and the victims often find themselves alone with psychotraumatic symptoms, which continue to invade them, especially with traumatic memory and its cortege of flashbacks, reminiscences, traumatic nightmares, as if the attacks were still ongoing as endless torture.

It is essential not to confuse healing of trauma with oblivion. Painful scars from the monstrous event will remain, but the victim will no longer relive this one identically with the same distress: after appropriate care, traumatic memory gives way to an autobiographical memory.

## **Knowledge of the psychotraumatic consequences and their mechanisms is indispensable.**

Hence the importance that everyone is precisely informed of what psychological trauma is, which mechanisms are at work and consequences on the lives of the victims. This is the only way to understand the pain and the reactions of traumatized victims, and to be the most kind and helpful possible. Relatives must acquire the means to understand that all traumatic reactions of the victim, particularly the phenomena of freeze, traumatic memory and dissociation are normal, as explained below.

Neurological damage causes traumatic memory (flashbacks, intrusive reminiscences, nightmares...), which can be reactivated, sometimes months or years after the attacks if correct care is not set up as soon as possible. This traumatic memory is a real time bomb—the slightest link recalling the traumatic event brings to life the worst moments like an uncontrollable time machine: a shout, a sudden noise, a detonation, rescue vehicle sirens, pain, the sight or smell of blood or powder, etc., and the traumatized person is invaded by images of the attack, noises, pain, panic, with a feeling of imminent death. It is very violent, it is a torture that can be triggered at any time, transforming the life of the traumatized into a minefield and compelling them to put in place strategies of survival which are very costly, and jeopardizing their health. But this traumatic memory can be defused and transformed into autobiographical memory, by means of a specific treatment.

## **Pain can reactivate after a long time.**

For the traumatized, time is not that of the media, nor of all the people around them. It is most often when everyone has stopped to think about it, that their pain, which was anesthetized by a mechanism of neurobiological survival (traumatic dissociation) will reactivate. This discrepancy in time will put them in an awkward situation with their entourage, which will no longer be at hand as at the time of the attacks, and will not necessarily make the link between this ill-being and the traumatic events.

## **Victims may feel isolated and abandoned**

Traumatized victims, if they have not been well informed, are in danger of being left alone with frightful suffering, without understanding its origin (the connection with the previous trauma can be difficult to make), without protection, comfort, understanding, care and necessary accompaniment, therefore in great danger.

Reactivation can sometimes occur several months or years after the trauma. Meanwhile, people are disconnected from their suffering through both emotional and physical anesthesia. There are few external signs that can alert a non-professional; they only have a feeling of emptiness, of being spectators to their life, and may think that eventually all is going well and they do not need for care, or support. Soon the entourage will no longer worry about them.

### **Psychotraumatic disorders are normal reactions to unusual and traumatic situations**

Psychotraumatic disorders (including post-traumatic stress disorder) are normal and universal consequences of violence, which can be explained by the establishment of neurobiological and psychological mechanisms of survival that cause traumatic memory. The damages are not only psychological, but also neurological with significant dysfunctions of the emotional circuits and memory that are visible on MRI.

The phenomena of traumatic memory allow understanding that it is impossible for the victims to keep it to themselves, to forget, to move on, to put it behind them, as they are too often asked... It is important to explain to the relatives that the victim will be able to recall the violence without reliving it only when this impressive traumatic memory is processed and transformed into autobiographical memory. Meanwhile the relatives must be patient, without panic which could worsen the distress of the victim.

It is therefore worth recalling that the severity of the psychotraumatic impact is not related to the psychological fragility of the victim. It is related to the monstrosity of the aggression, of the particularly terrifying and inhuman nature of the violence, to the feeling of total helplessness, and to the terrifying staging, the destructive intentionality and the hatred of terrorists, that create a psychological break-in and a state of shock.

### **Freezing paralyzes victims**

After having been exposed, whether physically or otherwise, to terror, to the inhuman destruction by terrorists, and to helplessness in the face of death, the distress sown so implacably around create a psychological intrusion and a freeze state which paralyzes the mental representations and the activity of the cerebral cortex responsible for integrating the events. These people with a traumatic shock find themselves either petrified, unable to move, shout, react, or shift to automatic pilot with more or less adapted reactions that they can reproach (or that is reproached of them) whereas these are normal reactions to the traumatism.

This freezing makes it impossible to control the activity of the cerebral structure at the origin of the emotional response and of the production of stress hormones (adrenaline and cortisol). This small subcortical structure – the cerebral

amygdala – is an archaic survival structure, an alarm that lights up during danger and remains active as long as the danger persists. It can only be modulated or extinguished if the person is safe or if he analyzes and controls the situation. The paralysis of the higher functions makes this modulation impossible; the emotional reaction quickly becomes extreme (surpassed stress) with increasing adrenaline and cortisol secretions, which represent a cardiological and neurological vital risk for the organism (very high adrenaline levels are cardiotoxic, one can die from extreme stress, and very high cortisol levels are neuro-toxic with neuronal damage)

### **A survival disjunction produces a traumatic dissociation and a traumatic memory**

As in an electrical circuit, to prevent everything from burning, the brain puts in place an exceptional survival mechanism by disconnecting the emotional circuit and isolating the small subcortical structure at the origin of the extreme stress: the cerebral amygdala. In this disjunction, the body is flooded with a morphine-ketamine cocktail, and the person finds himself disconnected from his emotions and his perception of pain. He or she is anesthetized as a spectator of the traumatic situation that seems unreal: that is the state of traumatic dissociation. Disjunction also interrupts the circuit of memory and prevents emotional and sensory memory from being integrated and differentiated by another essential cerebral structure: the hippocampus (encephalic structure which is the system of exploitation of memory, learning and temporo-spatial spotting). This emotional memory will remain trapped in the cerebral amygdala--this is called traumatic memory.

It is this crude traumatic memory, blocked in the cerebral amygdala, unintegrated, undifferentiated, which, at the slightest link recalling the violence, will identically terrify the victim again, as with a time machine, the victim sees the same atrocious images, hears the same cries and shots, feels the same emotions as terror, distress and despair, a state of panic with the feeling of imminent death and the same perceptions that are attached to them (images, smells, noises, words, cries, pain). For example, screams or an exploding firecracker can trigger a panic attack, and so can the sight of blood, sirens of rescue vehicles, the sight of a truck, etc. This traumatic memory will take over the victim and transform life into a minefield, with intense suffering and sensations of permanent danger.

### **Traumatic dissociation is misleading.**

Traumatized persons, as long as they remain exposed to stress, danger or its omnipresent recall, remain dissociated and anesthetized, as the journalist Philippe Lançon described so well in an article after he was the victim of the attack on 7 January 2015 at Charlie Hebdo ([http://www.liberation.fr/france/2015/11/22/les-tueurs-sont-revenus-eux-ou-d-autres-vivants-ou-morts\\_1415342](http://www.liberation.fr/france/2015/11/22/les-tueurs-sont-revenus-eux-ou-d-autres-vivants-ou-morts_1415342)). During the period of dissociation, the victims will appear distanced, disconnected or even indifferent, and they will not feel the ignition of their traumatic memory which will also be anesthetized.

These traumatic dissociation phenomena often presented by victims can be misleading and lead to the belief that the victim is not doing so bad because he or she looks calm, detached. He may even be smiling as if nothing serious had happened. This discordant state from the traumatic situation must serve as an alert: it is the sign of a state of dissociation and of a major trauma. The dissociative state does not mean that the person is not in a state of distress but that he is deprived of his emotions and cannot express them. Dissociation in no way prevents being traumatized, and it is even the opposite: dissociated victims have a tolerance for violence and pain that make them unable to protect themselves from dangerous situations. They will be even more traumatized, with a traumatic memory that will recharge all the more, turning into a time bomb. Sometimes the dissociative state is such that people can be lethargic, totally confused and disoriented, amnesic, without realizing the sands of time. They can suffer dissociative flight and wandering without knowing who they are or where they are.

These dissociative symptoms sometimes take place over a long period of time, causing the entourage to have difficulty recognizing the victims. Victims seem to have changed their personality completely, and they may seem strange, difficult to understand, with paradoxical behavior. As we already have explained, these dissociative symptoms lead the victim's entourage to underestimate their suffering and the intensity of their trauma, and to feel no emotion in relation to it, as the processes of empathy, through mirror neurons, have been deactivated by traumatic dissociation. Dissociation is often perceived by loved ones as resilience and loved ones will consider that there is no more trauma, which makes them less compassionate and more demanding, or even easily annoyed by absences of reactions and cognitive disturbances, factors that can be taken for indifference or ill will. Dissociated persons can then undergo real psychological harassment with incessant disagreeable and hurtful remarks to make them react.

To avoid this, one must help loved ones by taking into consideration that the suffering and distress of the victim are made unrecognizable by dissociation, and that it is necessary to rebuild them mentally. Knowing the process whereby mirror neurons are not activated in a dissociated person allows it to be identified and to fight against such induced emotional anesthesia and indifference, and to understand that on the contrary it is necessary to worry more for the victims, since this means they are very traumatized.

### **An explosive traumatic memory**

But when people come out of their dissociated state (most often because it is long after the attack and they are protected from any major stress), suffering invades them, and their traumatic memory (which is no longer anesthetized by the dissociation) is likely to explode, triggering exacerbated emotional reactions (distress, state of agitation and panic, feeling of imminent death, pain). It is important that the entourage understands that this is still a normal psychotraumatic process, and that the victim does not become mad or "hysterical."

This traumatic memory will take over the victim and transform life into a minefield, with intense suffering and sensations of permanent danger, obliging him to put in place costly, exhausting and often disabling survival strategies.

Without appropriate care, without support and protection, these psychotraumatic disorders can last for years, decades, or even a lifetime. They are the cause of a great mental suffering and a possible vital risk (suicide, risky behavior, accidents, diseases). International studies demonstrate that they have a considerable impact on their mental health (anxiety disorders, depression, sleep disorders, cognitive disorders, eating disorders, addictions, etc.), physical health (stress and strategy disorders survival) and their quality of life.

**Different survival strategies: avoidance, hypervigilance, addictive behaviors, jeopardizing behaviors.**

Without care, and if no link is made between the troubles and the trauma, they will be condemned to put in place survival strategies of two types:

- avoidance and control behaviors to prevent an explosion of discomfort,
- dissociating behaviors to anesthetize these feelings related to traumatic memory with drugs, alcohol or jeopardizing behaviors.

Avoidance and environmental control behaviors present themselves as phobias and obsessive compulsive disorders (all situations and places that can potentially trigger traumatic memory are very anxiety-provoking and are avoided), and as hypervigilance (with a feeling of permanent danger, alertness, hyperactivity, difficulty sleeping, irritability and attention disorders), with a high intolerance to stress. Victims, especially when they are children, try to create a safe, parallel world in which they feel safe. It can be a physical world—like their room, surrounded by objects, cuddly toys or animals that reassure them—or a mental world, a parallel world where they continually seek refuge. Any stressful situation is to be avoided, it is impossible to relieve the child's vigilance, and sleeping becomes extremely difficult. Any change will be perceived as threatening because it jeopardizes the benchmarks put in place. These avoidance and control behaviors are exhausting and invasive, leading to cognitive disturbances (attention, concentration and memory disorders) that often have a negative impact on schooling and learning.

Dissociative behaviors are used to provoke a disjunction “at any cost” to force the extinction of the emotional response, by anesthetizing it and thus calming the state of intolerable tension or preventing its occurrence. This induced disjunction can occur in two ways, either by causing very high stress that will increase the amount of dissociative drugs secreted by the body, or by using dissociative drugs (alcohol, narcotics).

These dissociative behaviors are hazardous conduits: self-aggressive behavior (beating, biting, burning, scarifying, attempting suicide), jeopardizing behaviors (dangerous driving, dangerous games, extreme sports, risky sexual behavior, situations of prostitution, runaways, dangerous connections), addictive behaviors (alcohol, drugs, eating disorders, addictive games), delinquent and violent behavior against others (the other is used as a fuse by imposing a balance

of power to disjoin and anaesthetize). Hazardous behaviors are therefore intentional endangerments sought after for their dissociating power.

These behaviors are very disabling and are a risk factor for the health of traumatized people—very serious suffering, risk of suicide and diseases related to stress and addictive behavior.

### **A public health emergency**

For traumatized persons and for all the victims' entourage, it is therefore imperative to be able to recognize psychological wounds in order to take account of their manifestations and to be informed of the very heavy consequences they can have on:

- their mental health (post-traumatic stress disorder, anxiety-depressive disorders, phobo-obsessional disorders, sleep disorders, eating disorders, suicidal risk and endangerment, addiction)
- their physical health (cardiovascular, pulmonary, immune, dermatological, digestive, endocrine, chronic pain, chronic fatigue, etc.). And finally, the need for care that would be accessible and free of charge, by qualified and trained professionals, in a secure, welcoming and multidisciplinary framework.

Centers that offer this care are rare; trained professionals are not enough. However, it is a humanitarian and public health emergency. Governments must act so that they respect the right of victims to receive quality care.

### **Who is at risk of being traumatized?**

Direct victims are most at risk of major trauma. They are those who have suffered the attacks, and whether wounded or not, have suddenly been plunged into the utmost and most implacable terror, confronted with the senseless barbarity of terrorists, exposed with their relatives at the risk of being killed, and those who have seen around them many people dying, severely wounded, mutilated. Then come the people who were witnesses during the attacks, not exposed directly to the terrorists, not threatened with injury or death (remote witnesses, people who phoned the victims during the attack).

Then we have to consider those who have helped the victims (police, firemen, caregivers who have been confronted with war wounded without prior experience), or those who arrived after the attack and saw the wounded and the mutilated corpses, the victims in very great distress, blood, etc. (neighbors, passers-by); and finally, indirect victims such as relatives, family, friends, acquaintances.

We must not forget those who have not been directly or indirectly victims of the attacks but whose traumatic past can be reactivated, and who can be traumatized again—victims of previous attacks or other violence, abuse, rape, etc.).

### **Which kind of care?**

It is essential to protect, safeguard, reassure and comfort the victims and to take charge of their state of stress or emotional shock. Go to them, make sure that their basic needs are assured—that they are not cold, hungry, thirsty, but are sheltered and calm, and not isolated. Provide reliable information, answer

questions about the situation, the status of other victims, what will happen in the immediate future and later.

It is essential to deal with the initial psychotraumatic shock, psychological distress and suffering, freeze state, traumatic dissociation and acute stress, thus preventing the establishment of long-term traumatic memory—protecting victims from increased stress, treating pain and controlling stress with treatment such as beta-blockers that decrease adrenaline production.

They must be able to express their emotions (fear, sadness, rage, despair, misunderstanding, etc.). Crying can help. It is important to share their feelings, and understand their reactions so that they can calm down and not feel guilty about their inability to react (freezing), their confusion, loss of benchmarks and emotional anesthesia (dissociation), or about their extreme anguish and panic.

As we have seen, victims are often in a state of dissociation, loss, confusion. It is important to give them benchmarks, to speak to them, to give them a coherent, reassuring discourse, to enable them to regain a gentle touch with reality: "I'm here with you, it's all over, you're safe at this place, it's [the hour], I'll explain how you got here and what's going to happen."

It is important to reassure traumatized people about their condition, to tell them that it is normal that they have been terrorized, overwhelmed by their emotions, that it is normal not to have been able to react at the moment, to have a very painful sense of impotence, to no longer feel their emotions and to have a feeling of unreality, disconnection, to feel lost, not to know where they are (dissociation), to be invaded by atrocious images, to relive again and again the scene of the attack, to hear noises again, cries, to feel pains, panic, etc. again (traumatic memory). But we must tell them that this will be alleviated with careful accompaniment and care.

For the victims, it is salvation to benefit from the support, the recognition, the solidarity, the understanding, the accompaniment and the aid of the rescue teams and those around them. In addition, it is a tremendous asset to rebuild.

It is unnecessary for the victims to recount what has happened, at any price. At first it is too difficult and it reactivates the feelings of terrors. The traumatic disjunction at the time of extreme stress causes everything that happens afterwards to be reaped as an undifferentiated magma in the cerebral amygdala. It will take patient work to put everything back in chronological order, to reconstitute, name, and understand what has been lived, and to remember it in a coherent, comprehensible way, without immediately reliving the freeze state that will disconnect the circuit again.

### **What is post-traumatic therapy?**

The therapist specializing in psychotraumatology serves as a guide in the most difficult moments, as well as "a spare cerebral cortex" in the event of a freezing (such as an external hard disk that takes over when necessary). They will identify the traumatic memory that needs to be patiently defused. This identification work allows the victims to revisit the violence without freezing again. This is made possible by a precise and relevant analysis, accompanied by a coherent chronological organization for the course of the violence, the staging of the aggressors and the emotional and behavioral experience of the victims. These



elements allow victims to regain emotional control. Thanks to this emotional control, the emotional and memory circuits no longer disjoin with any mention, the victims are no longer dissociated, and the traumatic memory of the violence can be transformed little by little into an autobiographical memory. At the same time, the identification of traumatic memory allows victims to distinguish between what they themselves are from what takes over them and comes from violence and aggressors. They are then freed from the hatred and destruction that the aggressor poured into them, and can re-experience themselves as they regain their personality and self-esteem.

In other words, what matters is making bonds by reintroducing mental representations for each manifestation of traumatic memory (making sense), "repairing" the initial psychological intrusion, of psychological freezing linked to irrepresentability of violence. To revisit the experience of the violence, the therapist accompanies step by step the victims like a "professional minesweeper," in the secure framework of psychotherapy, so that this experience can gradually become comprehensible, because it is better representable, forming words about each situation, behavior, and emotion, by accurately analyzing the context, reactions, and the behavior of the aggressor. This advanced analysis allows the associative brain and hippocampus to control again cerebral amygdala reactions and to encode emotional traumatic memory into conscious and controllable autobiographical memory.

The aim of psychotherapeutic management, therefore, is never to renounce understanding or to give meaning. Any symptom, nightmare, or behavior that is not recognized as coherent with what the victim fundamentally is or should be, any incongruous thought, reaction or sensation must be dissected to connect it to its origin, to illuminate it by links with the past violence. For example, an odor that gives a discomfort and an urge to vomit recalls an odor of powder or blood, a pain leading to panic recalls pain experienced during aggression, a noise that seems intolerable and agonizing is a noise heard during the violence, like the sound of shooting or explosion. An hour of the day can be systematically agonizing or can lead to an alcohol intake or to bulimic behaviors if it is the hour of the attack.

Quickly, this work is done almost automatically in traumatized people and makes it possible to secure the psychological ground. When the traumatic memory is switched on, the cortex can now control the emotional response and alleviate distress, without resorting to a disjunction that is spontaneous or provoked by risky dissociative behaviors. The neurological damage can be repaired thanks to the capacities of neurogenesis and neuro-plasticity of the brain.

The modulation capacity of the emotional response can be visualized by MRI before and after treatment. Before treatment, when veterans are exposed to a narrative of war violence, traumatic memory lights up and the hippocampus remains completely out of control, with a huge, uncontrolled and very active cerebral amygdala (very colorful on functional MRI), with a simultaneous panic attack and dissociation. After treatment, listening to the same story, the

hippocampus becomes very active and very colorful with a amygdala of small size and little colored. Indeed, the amygdala is then well modulated and its contents are integrated in autobiographical memory by the hippocampus. Not only does the narrative of violence no longer lead to an explosive emotional reaction in the veteran, it allows the new reminiscences of violence to be incorporated, and the traumatic memory to be demined a little more.

Relatives can help victims find the links that trigger their traumatic memory to help them better control it. What is crucial is that the relatives remain calm, confident, and talk to the victims to bring them back into the world today, reassuring them and describing what is happening. This allows help victims out of the past where traumatic memory has blocked them, as a real time machine.

The more victims and their entourage understand what is happening, the more traumatic memory can be controlled and defused (it is the principle of treatment).

As we have seen, to avoid switching on this traumatic memory, as long as it is not defused, victims are compelled to put in place costly, often disabling survival strategies, such as avoidance behavior; these strategies are sometimes dangerous, incomprehensible and paradoxical, such as risky behavior and endangerment.

Faced with all these destabilizing, disconcerting and distressing behaviors, the entourage must not attack the victims nor panic. It is totally counterproductive to preach to the victims. Above all, one must wonder what is causing the exacerbation of survival strategies, one must look for links to defuse traumatic memory (for example, for massive alcoholism, discovering that it always takes place at the time the attack occurred). It must also be understood that it is not ill will on the part of the victims, nor psychiatric pathology.

The entourage must therefore stand by the victims and care for them. They must support, accompany and help them find the professional resources that will be most useful to them; they must respect the victims' time, imposing nothing on them, but informing them about their rights and proposing useful steps to them.

Dr Muriel Salmona, Paris, 16 July 2016

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Useful links :

<http://13onze15.org>

<http://www.inavem.org>

<http://www.memoiretraumatique.org>

<http://stopaudeni.com/>

<http://www.memoiretraumatique.org/assets/files/v1/Documents-pdf/>

[Fiche a destination de l entourage des victimes2.pdf](#)