

Okay, kiddies, and all you whatevers lurking in the shadows, it's time for (drumroll, please):

Serious shit from Fred! Bear with me...

Joe Blow is walking down the street, minding his own business, enjoying the evening. All of a sudden, a huge monster with a whole lot of 'tude and claws and teeth and bubble gum and a Howitzer jumps out of an alley and says "Grrr!" but not in a nice way. What happens?

Well, there's a lot of different things that could happen in this little scenario, but I'm going to tell you of some interior events. In the brain of Joe Blow interior events Joe's brain's neurotransmitters register this abrupt stimulus, and set off the release of some chemicals, those being catecholamines, corticosteroids, oxytocin, vasopressin and our favorite pal, endogenous opioids.

Now, Fred, I hear you saying, what the hell are those chemicals, and what are they doing swimming around in Joe's brain? Well, I'll tell you. Catecholamines (epinephrine and norepinephrine, specifically) create a stress response known as "fight or flight." Corticosteroids regulate the amount of catecholamines released in the brain and tell the liver to spew more glucose for peppy energy and do some tinkering with primary immune functions. Busy stuff. Oxytocin inhibits memory consolidation, and what that does is help the brain ignore pain, put very, very simply. Vasopressin is a natural anti-diuretic, and prevents dehydration. Endogenous opioids are the brain's own street drugs, and control pain. Any of you folks who indulge in the occasional recreational opiate also know that it dampens emotions.

Okay, okay, I heard the thud. I just lost about half of you. Hang on, I'll make this fun.

The monster says "Grrr...!"

Immediately, Joe's pupils dilate and his nostrils flare; this is his brain asking, "more input, please, I'm at a loss." Joe's awareness of the monster increases. "Grrr!" focuses the human mind mightily. His blood pressure shoots up, his heart rate increases, his respirations deepen and become more rapid, his mouth goes dry and every sphincter Joe has clamps shut.

Joe's skeletal muscles tense. That's over one thousand muscles, half Joe's bodyweight, contracting into what may or may not become a burst of energy, either to launch a counterattack or spring away.

His skin pales, as blood rushes from the capillaries to the long muscles of his arms and legs; this has a dual purpose, in providing the muscles with more blood, and more fuel being carried in that blood, as well as diminishing blood loss from any superficial wounds.

Blood also leaves his digestive system and the "higher processes" portions of his brain; they're not essential to what's going on. His hair follicles contract, causing his hair to stand on end. This is a leftover response from when we were much furrer folk. At the same time, Joe's sweat glands open up, cooling the surface of his body, and, as a bonus of questionable efficacy in these high-tech times, makes Joe very slippery. (This would be much handier if Joe and his opponent were naked, but the parts of the brain governing these things don't seem to acknowledge clothes as relevant.)

Slash! The monster strikes a blow, and those tensed skeletal muscles respond with a leap back which ensures the streaking claws only cause a superficial wound. The contracted capillaries keep bleeding to a minimum. The endogenous opioids suppress the sensation of pain, and the oxytocin inhibits Joe's ability to remember the pain the opioids could not cover up.

That leap back has expended a good amount of the glucose and other goodies. The threat, as in the great big freakin' monster with a whole lot of 'tude and claws and teeth and bubble gum and a Howitzer is neither defeated or far away; more catecholamines! more endogenous opioids! more oxytocin! screams the ancient part of Joe's brain; the system complies, and some very interesting things start to happen.

We have to step away from Joe Blow and his foe for a little bit. Don't worry, we'll get back to him.

Our brains use two types of memory, explicit and implicit. Explicit memory is that part of any given experience understood verbally and logically. Implicit memory recalls that same experience from the perspective of senses and emotions. This is an oversimplification here, but not much of one. That chemical soup we've been discussing impedes the ability of explicit memory to obtain information, which is great when Joe's "in the moment," otherwise he'd be mentally overwhelmed and unable to function.

Now most times, a stressor rears its ugly head, it has its moment, and Joe either dies, kills it, or flees until he is out of danger. And then it's done. Breathing, heart rate, blood pressure, adrenaline levels all return to normal. The toxins left behind by the stress chemical soup are flushed from the system, and Joe reincorporates his explicit and implicit memory by finding his buddies and relating his close call or victory.

None of that will happen if Joe dies, but you guys know that, huh?

But here we are, back with Joe, and he isn't a safe distance away, the monster is decidedly not vanquished, and our Joe is just not the type of guy to want to get dead. That chemical soup is singing through his blood, and his brain is doing something very interesting. The second call for chemicals, and the third, and the fourth, are no longer only assisting the body in its "fight or flight" response; they are now at levels high enough to cause damage to the brain.

Anyway, Joe Blow gets away from the monster. Whew!

Don't ask me how, I don't know because he can't really tell me. He doesn't remember the whole thing, at least not in a way he can verbalize. And without intervention of some sort, he may never have anything but the most disjointed understanding of what happened.

Here's a quick pop culture ref for you: Ever see the movie "Them?" Giants ants, created by an atomic bomb test in the American southwest desert? There's this one scene, of a little girl, a survivor of a giant ant attack. For all intents and purposes, she is in a catatonic state, non-responsive to any external stimuli, at least not verbal stimuli. Nothing. Not until a scientist waves a beaker of formic acid under her nose, which is (oh tell me you've been paying attention, kiddies, please) that's right, a stimulus of implicit memory. That's where the trauma lives, in that sensual, non-verbal, non-rational place, courtesy of extreme amounts of "fight or flight" chemical soup.

And that's not all. Joe's experience, unresolved, leaves his brain expecting more monsters. Now Fred, I hear you say, that's not a bad thing, there ARE more monsters. True, but not all the time, and not everywhere, but the brain has decided otherwise, and keeps pumping out stress response chemicals, at lower levels than when there actually is a monster, to be sure, but at higher levels than appropriate to a non-threatening situation.

Resting blood pressure, respiration, and heart rate stay elevated. Reserves of glucocorticoids, which assist the immune system's functions have been used up, and remain at decreased levels. The alpha-2

Adrenergic chemicals, which should have been regulating the production of catecholamines, are decreased. The functions of the hippocampus are impaired, keeping apprehension of explicit memory either fragmented or entirely out of reach. The continued constriction of blood vessels does not allow the now degraded residue of those stress response chemicals to efficiently be eliminated from muscle tissues; lactic acids accumulate.

And a whole great big list of other things, too, but I'm hearing the soft thud of lost attention again. Hang on...

Chronic hyperstress. It's the physiological manifestation of something called Post Traumatic Stress Disorder (PTSD), and the shorthand name for all that chemical action going on up there. PTSD also has mental and behavioral manifestations. Let's get back to Joe...

Joe is getting on with things. It's been a couple days, and he's still a little on edge. Well, of course he is.

He faced a great big freakin' monster with a whole lot of 'tude and claws and teeth and bubble gum and a Howitzer, a dark and scary something that put one hell of a set of gouges across his chest. It was terrible, but he's sure that with a little time, he'll get a handle on it. Sure, no problem. Until the bubble gum chewing bozo buzzes by Joe on the gas powered scooter, the scent of the gum trailing after him, the little engine saying, "Grrr!"

Scent. Sound. Sensual input. Implicit memory. The memory that didn't take a power nap through the trauma. Joe finds himself no longer strolling down the street with a sense of vague unease and an annoying bozo using a vehicle on a pedestrians-only concourse, but right back at the entrance to that alley, facing the great big freakin' monster with a whole lot of 'tude and claws and teeth and bubble gum and a Howitzer. Not just remembering it, man, Joe is once again "in the moment," and the same chemical soup that sang in his blood picks up the tune again.

This is a mental symptom commonly known as Intrusion. I've given you folks the extreme example of Intrusion, also known as a flashback. It can also manifest itself as nightmares, which I can assure you, Joe is having. During one of these intrusion episodes, the level of endogenous opioids in his bloodstream can skyrocket to something approaching the equivalent of 8 mgs. Of morphine. This is not a recommended recreational experience.

But now Joe is having other problems, too. His memory is shot to pieces (damn that pesky oxytocin!), he jumps at even the most non-threatening sounds, he's losing track of time, forgetting where he is, even if he's in his own home, and he just can't relax. Relax, hell, he can't even sleep for more than an hour at a time. Sleep means letting down his guard, and REM sleep is the entrance to that dark alley all over again.

And then there's other people. Other people, even those he loves more than his own life, well, they do strange and unexpected things, they make noise, they drop things, they remind Joe of how vulnerable they are. How vulnerable he is. Joe begins to withdraw from these noisy, unpredictable, vulnerable loved ones. Yes, they love him. Yes, they are concerned, but how could they possibly understand. After all they didn't see the... it was so dark. Joe remembers claws, teeth, a "Grrr!"

And Joe is "in the moment" once again. The chemical soup surges, the opioids stop in for another visit, and Joe acts according to the dictates of the ancient lizard brain. He screams, and he screams for no reasons apparent to the people around him. Eventually, Joe stops screaming, and stops trying to remember the specifics of what set him screaming, and stops trying to be around the people he's upsetting.

Avoidance and Hyperarousal. Two other mental effects, caused by the physiological effect, feeding the physiological effect, which exacerbates the mental effects. Vicious circle. Poor Joe.

Poor, poor Joe. Desperate for relief, finding none, he lashes out at the next thing that causes a startle response, be it a car backfiring, a dropped spoon in the kitchen, or the pop of a bubble gum bubble. Especially that. Oh no, back "in the moment..."

Joe is reaching the end of his tether. Joe takes that next step in trying to cope. Joe has a little binge. It doesn't matter what the substance or activity is: alcohol, drugs, illicit or otherwise, sex, and, bizarrely enough, high risk behavior (ah, those endogenous opioids, yum!). Anything, anything that offers a temporary reprieve from the hell he's found himself in. Self-medication. It dulls the pain. It makes that damned implicit memory shut up. For a while. Maybe.

Nowadays, many folks that go through some kind of traumatic experience, at least those in what we euphemistically call a civilized society, can count on some kind of intervention early on. Grief counselors, crisis intervention phonelines, on and on.

Not Joe. Joe's one of us, and to get effective help, he would have to talk about the great big freakin' monster with a whole lot of 'tude and claws and teeth and bubble gum and a Howitzer. And it takes more than just talk, I'm afraid. One of the reasons I decline pleas for online therapy is that it is either ineffective, or makes the situation worse. This is not a disorder that responds well to the long distance, quick fix approach.

You want the list again? Man, this just fucks with my head every time I have to repeat it. Fine. We'll start with the approaches to avoiding PTSD. Here we go:

Stress reduction techniques. Yoga, meditation, prayer, long hot baths, petting the dog. Whatever works. Don't have something that rings your bell? It's called the Internet, kiddies. Do a web search, find your own bell-ringer.

Any vigorous exercise. Get that heart rate going without benefit of monsters, break a sweat, and drink lots of water. The more you accelerate your metabolism after a crisis has passed, the faster you flush the chemical soup out of your body, the less ammo your lizard brain has to use against you. Did I say drink lots of water? It bears repeating.

Good nutrition. We're addressing the out of control levels of chemicals again. I've just given up on most of you eating anything but vat-job, extruded fast food, so I'm not even going to bother with the regular lecture. And for the love of God, if you're eating decently, don't reply telling me how wrong I am about you personally. Just keep up the nutritional responsibility. For those of you who aren't, buy, borrow, shoplift yourselves a steady supply of multivitamins with antioxidants. It's not the cocktail I would like to see everyone in this line of work on, but it's what will put a tiny smile on my face.

Here's an important exercise: write the episode down. Not necessarily to the list, just use that explicit memory, the rational, verbal side of the equation, to express what happened to you. Not what happened to the gang, not what happened to the monster or whatever. What happened to you. Keep at it until you have it down as accurately as you can, then post it, burn it, wipe your ass with it, it doesn't matter. In fact, wiping your ass with it is probably an excellent exercise in personal control.

If you have the good fortune to be part of a team, set aside some time to sit and talk, and make damned sure you include support staff/non-combatants, or whatever your personal designation for folks not on the front lines is. There is such a thing as Secondary Trauma Syndrome (STS) and it is not to be taken lightly. It has the potential to be as devastating as PTSD.

Now I'm going to tell you a harsh truth. This may not be enough to help. Some should be receiving some level of pharmaceutical intervention, and sending out scripts to unmet, unsupervised "patients" is not just unethical, it's dangerous. These medications are powerful, and can have unpredictable side effects.

There's more I'd like to say. I wish I could be in more than one place. I'm sorry, this is the best I can do. For now.

Fred