

Reading on Recovery:

Understanding the Brain and How It Responds to Trauma... Can We Rewire It?



Do you remember learning how to drive a car? It probably took a great deal of concentration and effort. Did you grip the steering wheel and carefully steer the car around a corner... Did it take quite a few goes to parallel park... Or change gears... Were you nervous about overtaking other cars or changing lanes? Those of you who didn't learn to drive may have had a similar experience learning to ride a bike. Now, you jump

into the driver's seat or get on the bike without giving it a second thought. This is because your brain laid down neural pathways to allow you to do this without too much thought - almost automatically. These neural pathways are simply the ways in which brain cells connect to each other – and there are trillions of these connections in each of our brains. Our brain is very efficient in developing these neural pathways so that we have 'tools' or responses for managing life's circumstances.

So, what neural pathways develop in response to stress and trauma? When stress crosses the line and becomes overwhelming, (i.e., trauma) our nervous system goes on high alert. The brain sends out an alarm to manage the situation and respond to threat - often this is a flight, fight or freeze response. We may often experience this response in different ways; as feelings of being hyper-alert, panicky, on guard, feeling like you are leaving your body or zoning out, or becoming frozen on the spot. If the trauma is ongoing, these automatic responses can become patterns. So, throughout our lives when triggers to the past trauma occur, a neural pathway for dealing with trauma is activated, and the emotions & bodily responses happen again. It can become almost automatic, like driving a car.

Fortunately, these neural pathways are not 'set in stone'. The brain can change itself - this is called 'neuroplasticity'. It usually doesn't happen magically, but you can create new neural pathways by changing things about your responses, behaviour and environment. Creating new pathways needs a great deal of awareness, mindfulness and acknowledgment of the present. Yet, with work and time, these new pathways will replace the old, and enable trauma survivors to gain control over their thoughts and feelings.

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Rewiring your brain... Just think of your brain as a power grid, with roads or pathways lighting up every time you think, feel or do something. Some of these roads have become highways. These are your



habits; your established ways of thinking, feeling and doing. Every time you think in a certain way, practice a particular task, or feel an emotion, you strengthen this road or pathway, and it becomes almost automatic for your brain to travel this route.

When you think about something differently, learn a new task, or choose a different emotion, you are carving out a new road. If you keep travelling that road, your brain gets used to the new direction and therefore, this new way of thinking. Feeling and doing becomes second nature. The old road becomes disused, overgrown and sometimes can even disappear. This process of rewiring your brain by forming new connections and weakening old ones is neuroplasticity in action.

One reason why it is so difficult to change the way you think, feel, and behave is that your beliefs and corresponding neural pathways have been formed early in life, and in response to trauma. Those early responses sometimes are so very strong because your safety and even survival depended on them. If that pathway is well-travelled and no new pathways are built and strengthened, it is very difficult to change your ways of thinking, feeling and behaving. Creating and strengthening new, positive neural pathways is an essential part of achieving lasting change. There are some things that can help with rewiring your brain, so you respond differently to triggers and old patterns that are 'past their use-by-date'. This can include becoming more aware of your triggers, and your pattern of responses to these triggers. It takes practice and requires that you observe these patterns and think about them.

It is often helpful to ask others whom you trust and know you well to help. Sometimes others see these things better than we do. They can also help us think about alternative ways we can respond and help us carry them out. Those with lived experience who have been able to rewire their brain in a positive way can

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be a good source of help and support. Some people also use counsellors to do this. Keeping a journal (like a log book) is another way to help you notice and keep track of the changes. These things usually require lots of patience and practice, just like driving a car. The incredible thing is that the human brain has a very real desire to heal itself, and this healing and changing can continue all our lives.

- Do you recognize any patterns of response in your own life (neural pathways) that you would like to change? Maybe responses to threat, or not feeling safe?
- Are there some things you can do differently to help develop a new pattern of response a new road or pathway?

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