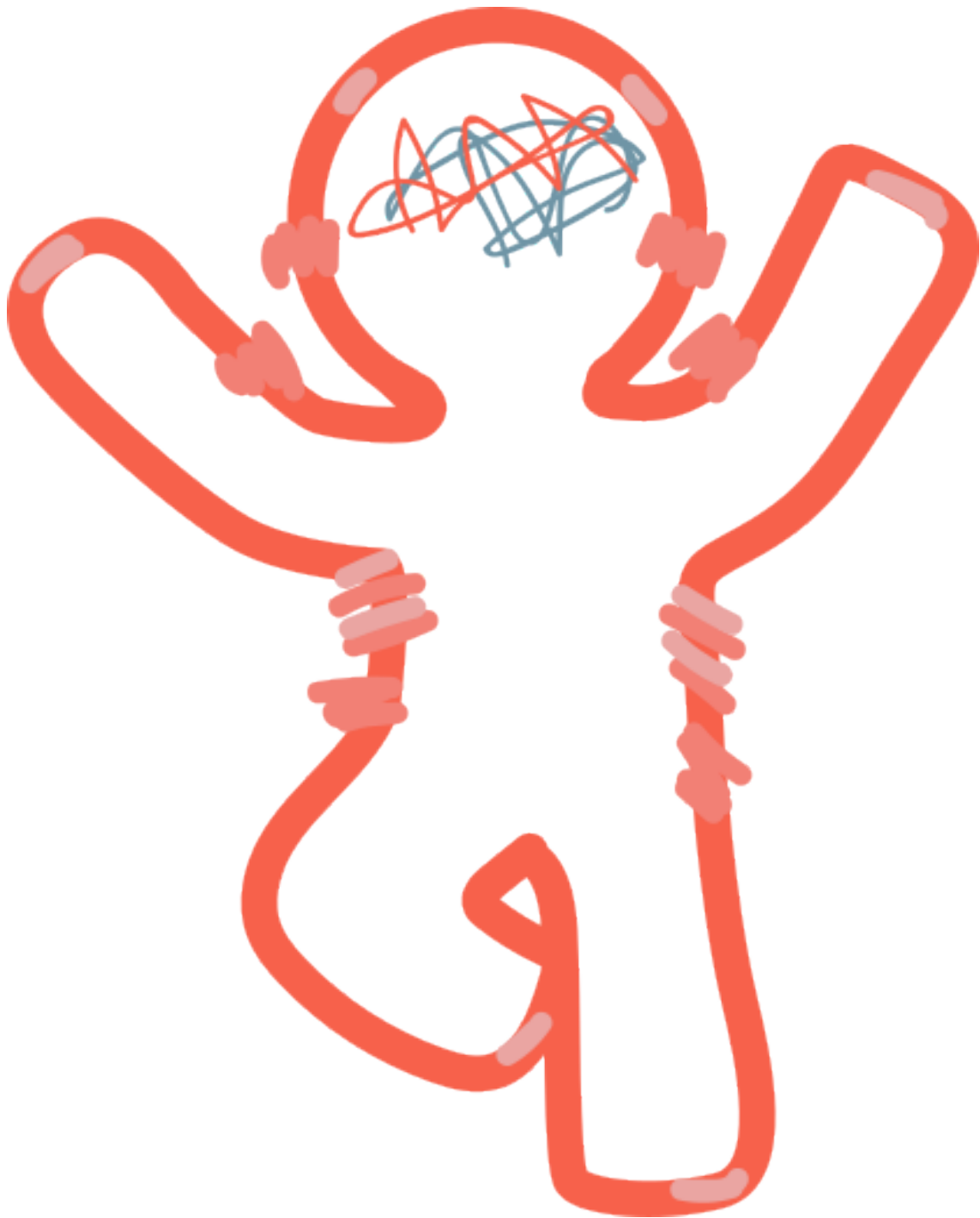


Body memory



Do your symptoms point to what your body has been through?

Body memory

Metaphors: is the body like a bicycle or a computer?

When we feel symptoms in our bodies, we often try to fix the problem like a mechanic repairing a bicycle. We look for the part that is broken and needs fixing.

But this approach doesn't always work for our bodies. Sometimes we can't find a broken part that explains our symptoms.

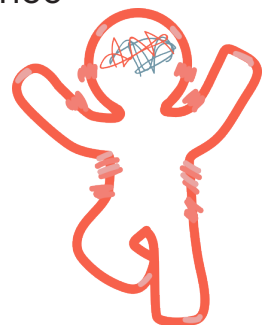
One reason this approach fails is because bodies are not like bicycles. Our nervous system plays a role in symptoms. To understand this better, we can think of the body like a computer.

Let's apply this computer metaphor to the muscular-skeletal system. Our muscles, joints, nerves, and fascia are the hardware, providing the structure for action. Electrical code, traveling through our neural pathways, is the software. The software coordinates when our muscles tense and relax and regulates what sensations we feel.

This computer metaphor helps us understand the role of the brain in symptoms. It can explain how things like our attention or emotions can interfere with movement and alter sensations like pain.

This metaphor can also help us understand why we often wake up with the same symptoms today as we had yesterday.

The software is always trying to operate efficiently and save energy. It cuts corners by predicting that nothing has changed since yesterday. This is a sort of autopilot, that is always operating to a greater or lesser extent. On autopilot, instead of taking in huge amounts of new information constantly (inefficient), the brain generates experience by running whatever code is already programmed (efficient).



Experience shapes body memory

The computer metaphor is useful but it doesn't fully capture the nature of our bodies. Unlike computers, our bodies are alive. Bodies have a history, they learn, and they update themselves to meet new challenges.

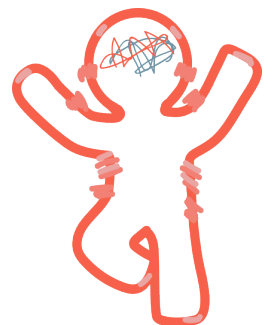
So, let's introduce a different metaphor: imagine you are walking through a field of tall grass near where you live. It is somewhere where you walk a lot. Some of the grass is flattened down, creating a path. Naturally, you choose to walk on the path, you know the way and your feet stay dry. Although you can always choose to walk a different way through the field, the well-trod path is the route of least resistance. As you walk the familiar way, your footsteps embed the path a little deeper.

This is a bit like how experience forms into body memory. Unless we consciously choose a new path, our brain and body automatically do things the way we are familiar with. As we repeat an action, we embed the familiar path deeper. Our experiences become habits which shape our future autopilot.

This body memory is not confined to the brain. Repeated actions embed their trace throughout other body structures and systems.

For example, when we practice a new skill, like learning to knit or play the guitar, we subtly alter the structure and connectivity of the muscles in our hands. The result is that we are easily able to do actions that might have seemed impossible before. Athletes also use this fact to train.

Therefore, body memory not only tells us about our past but also influences our future. Whether our body has the strength, flexibility,



or skill to do something today depends on our past habits. Our current habits determine whether our future possibilities are limited or expanded.

Emotional, immune and traumatic memories

Body memory is not limited to the musculo-skeletal system. All the systems of the body have their own history and store this life experience in different forms. Different systems also have different ways in which their memories play out in the present.

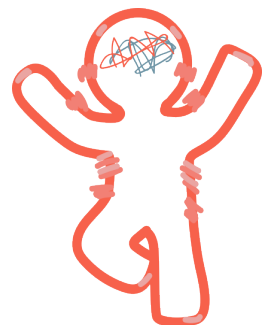
For example, there are emotional memories. When we're reminded of someone we love, our body remembers and fills us with warm feelings. On the other hand, if we see someone who reminds us of a painful time, we may feel angry or upset, without even realizing why.

The body also remembers situations that are safe or dangerous. For example, the autonomic nervous system can be activated by triggers in the environment. If we walk down a street where we have a frightening memory, the SNS will kick in. We might feel our heart race, or our chest get tight.

The immune system has its own way of storing memory. It can remember specific molecules, or even places, and learn to react more or less sensitively to them.

Interestingly, bodily memories don't seem to follow the same sense of time as our conscious memories. When a traumatic memory is triggered, it can feel like we're back in that scary situation. Bodily memories of trauma can be very intense and overwhelming.

In many cases, our bodies hold onto memories of injuries, illnesses, or traumas even after our minds have moved on. These body memories



can affect our health and well-being, even if our conscious minds can't recall the events.

Could any of your symptoms be operating as body memories? If so, the approach to reduce symptoms will involve finding ways to encourage the body to update, forming new memories and patterns.

Updating body memory

The good news is the body adapts a little every time it experiences something new. Through moving through the world in new ways, the body can transform old patterns of tension and find new freedom and ease.

Physiotherapists or psychomotor therapists are healthcare professionals who can give you advice on how to update bodily habits in ways that will be most helpful for your symptoms. Occupational therapists can give you advice on how to structure routines and overcome obstacles to doing things differently. Cognitive behavioral therapy can help you reflect on your current automatic responses to illness, and find opportunities to respond differently.

It can be most fun and motivating to create new habits or learn new skills with others. Most communities will have groups that you can join. Groups might be based around dance, yoga, gardening, walking or other mindful movement practices. It is important, even within a group, that you move at a pace that allows you to keep awareness of your body and what it needs. You may want to look for groups that are advertised as slow, or restorative, suitable for healing, trauma informed, or for older adults.



References

Bègue I, Adams C, Stone J, et al.: Structural alterations in functional neurological disorder and related conditions: a software and hardware problem? *Neuroimage Clin* 2019; 22:101798 Crossref, Medline, Google Scholar

Fuchs, T. (2017). *Ecology of the brain: The phenomenology and biology of the embodied mind*. Oxford University Press.

Grignolio, A et.al. (2014) *Towards a liquid self: How time, Geography, and life Experiences Reshape the Biological Identity*. *Frontiers in Immunology*, 5:13

Hyman SE. *How adversity gets under the skin*. *Nat Neurosci* 2009;12:241–3.

Lange, J. de, Glas, O., Busschbach, J. van, Emck, C., & Scheewe, T. (2019). *Psychomotor interventions for mental health – adults: A movement and body oriented approach*. Boom.

Nelson CA. *Biological embedding of early life adversity*. *JAMA Pediatr* 2013;167:1098–100.

Nusslock, R., & Miller, G. E. (2016). *Early-life adversity and physical and emotional health across the lifespan: A neuroimmune network hypothesis*. *Biological psychiatry*, 80(1), 23–32.

S. C. Koch, T. Fuchs, M. Summa, and C. Müller, (eds.) (2012) *Body memory, metaphor and movement (Advances in Consciousness Research, vol. 84)*. Amsterdam: John Benjamins Publishing Company, 9–22

Van Der Kolk, B. (2003). *The body keeps the score*. *Trauma*, 2, 50.

