



## Moore Health Physiotherapy Explains: System Wind-Up

Many people are aware that a dysfunction in the muscles, joints, bones or nervous system can lead to injury within the human body. However, it is not well publicised that thoughts, emotions and behaviours can also lead directly to injury and pain within the body. When we recognise that primary cause of a condition can be these factors, we have the chance to address them.

The concept of wind up occurs in the body when there is too much tension/electrical-impulse activity within the neural system of the brain & spinal cord. This wind up can be likened to the tension in a spring; pressures above the optimal range can increase stress and induce tension & dysfunction. Too much wind-up can be the primary cause or secondary result of a condition, and this is what we at Moore Health can help you determine.

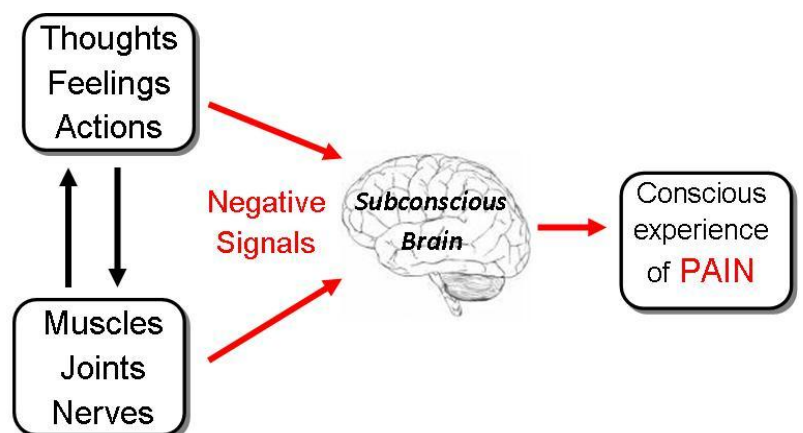
### How can we recognise Wind-Up?

Mental and physical factors that may contribute to negative signals in the body include;

<b>Thoughts</b>	Hyper-vigilance, unhelpful beliefs, mismatching ideas, unhelpful expectation, lacking confidence, memory of pain
<b>Feelings</b>	Frustration, stress, worry, anxiety, fear, depression
<b>Actions</b>	Self massage, excessive joint cracking, jittery movements, overdoing it, excessive stretching, excessive rib-cage breathing
<b>Muscles</b>	Tight, ache, spasm
<b>Joints</b>	Stiff, clicking, cracking, giving way
<b>Nerves</b>	Pins/needles, shooting pain, burning sensation
<b>Organ Conditions</b>	Immunological, illness; endocrinological, hormonal

Dysfunction of each of these parts of the system may result in negative signals informing the brain of an 'unhappy state'.

The diagram shows the interactions between the mental & physical systems of the body and how these influence the brain & pain processing. For example an increase in mental stress from **anxiety** can lead to an increase in **muscle tension** around a body part (e.g. the neck-shoulder muscles or low back muscles) OR anxiety and joint stiffness leading to an **action** of excessive behaviour of **joint cracking**.

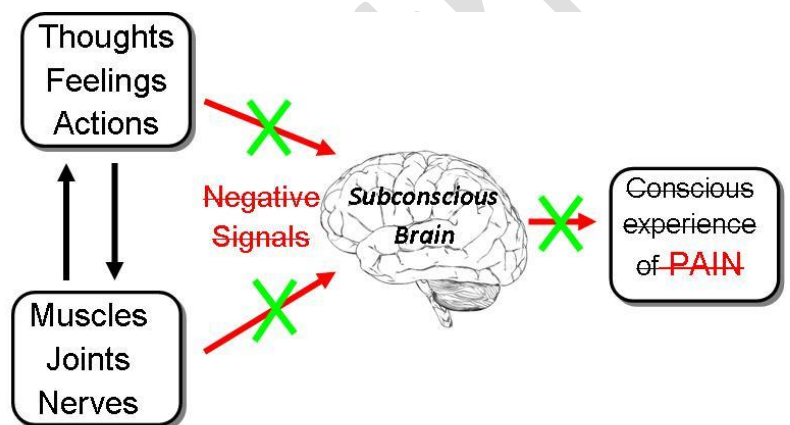


Some of the most common categories for our mental state directly influencing the musculoskeletal system are negative attitudes, unhelpful behaviours, concerns about a diagnosis, work stress, relationship stress and financial compensation stress.

When dysfunctional, these systems can transmit negative signals to the subconscious brain which contribute to “wind up” within the nervous system. Once this wind up is processed by the brain, and the tension in the 'spring' reaches a threshold, the final outcome is the brain creating pain & discomfort. This painful experience is our **protection mechanism**, an indicator that something needs to change to turn off the negative signals.

## What can be done about Wind-Up?

The negative signals to the brain can be turned off rapidly once the primary, or most significant, mental or physical factor is changed. In some conditions many of the above factors transmitting negative signals have an accumulative affect on the nervous system. Therefore in order to solve wind up within the system, the most significant negative signals from the mental & physical components must be addressed.



The physical components are addressed with good physiotherapy interventions to ensure muscles, joints and nerves are functioning in an optimal state. This is achieved most rapidly by solving the most significant factor that contributes to a condition - we call this the Primary Contributing Factor (PCF).

Mental concerns will be addressed in a number of ways; physiotherapy treatment with pain education; specific behaviour modification; changing unhelpful thoughts and beliefs; and in the more complex cases referral to a mental health expert.

Once the components that lead to wind up are solved, the brain no longer receives as many negative signals and there is less reason for the brain to elicit a pain response.

These changes may be as simple as learning that a painful condition is not a result of damaged tissue and that you can continue work/training without. OR realising that continuation will cause further damage, and ensuring the correct actions are taken to prevent further injury.

At **Moore Health** we treat you using the **Ridgway Method**

The **Ridgway Method** is a unique process for finding the Primary Contributing Factor (PCF), which is the most significant factor contributing to a condition; it may be physical or mental. The **Ridgway Method** is based on the latest research by physiotherapists and neuroscientists into the relationship of specific brain function to pain and musculoskeletal dysfunction. If you would like more information on this topic please feel free to contact us to arrange information sessions with practical outcomes.