



The Mechanics of MS

An analogy to aid understanding of MS disease progression.

The Mechanics of MS is an analogy that has been co-created by representatives from the MS patient community and Roche. It is a tool to help people in conversations with their healthcare professional or other members of their MS care team in talking about MS disease progression.

The Mechanics of MS is a universal analogy that explains the experience and science behind MS disease progression. It explores the progression of MS using the analogy of a car, with the idea that the universal experience of owning or travelling by car can help the fairly complicated subject of MS disease progression be better understood.

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The Analogy

Imagine your body is a car, of which you are the driver. Your family and friends may be beside you in the passenger and back seats, or you may be driving the car alone. As you drive, the car experiences **'wear and tear', which represents MS disease progression.**

The **car is your own**, with its own vehicle registration plate, but it does **share qualities with every other car.** A key universal component is that **no matter how it is driven, over time it will experience wear and tear.**

There are different types of MS, and it can affect people in different ways – but some things are consistent amongst everyone with the condition¹.

This wear and tear is always happening, but it is invisible – hidden underneath the hood of the car. It can come in many different forms that affect the car's ability to function as well as it used to be able to.

Disease progression can occur without necessarily being visible. This can lead to issues related to vision, mobility or cognitive (brain) function for example².

When you notice the car is **not functioning as well as it used to**, or when it requires scheduled maintenance, you may be able to take it to a mechanic. A mechanic may not be able to provide an immediate solution for every issue, but it can be helpful in terms of **reducing the severity and impact of certain issues.**

Seeing a healthcare professional or neurologist may not always provide an immediate solution, but it can be helpful – as can disease modifying therapies which prevent the frequency and severity of certain issues³. Equally, positive lifestyle choices can have an impact on MS⁴.

Equally, you **may not always have access to a mechanic** when you need one – meaning you may have to consult the car's manual to **find a solution** or look online to see if others have experienced the same problem.

Some people with MS may not always have access to a neurologist, leading to them seeking additional information.



Who is it for?

The analogy is for anyone living with MS – but could be particularly helpful for those who are recently diagnosed or are looking for more information on disease progression. This includes the families, friends and partners supporting people with MS.

Why has it been developed?

MS is a condition which can progress, with a variety of potential symptoms including problems associated with vision, movement, and cognitive (brain) function². MS disease progression might be a hard topic to approach or discuss. If people with MS and healthcare professionals start to factor disease progression into the treatment and care plans, this has the potential to improve overall quality of life for people with MS.

How can it help you?

The analogy has been developed for people with MS to help them better understand their condition. It provides an example of how disease progression can manifest in a person with MS – bypassing the scientific complexity of progression by framing what is happening in a way that is universally understood.



Q: How can you use the analogy to initiate a discussion with a healthcare professional?

It is not the intention to replace the important conversations already taking place between healthcare professionals and people with MS; the goal is to provide a useful tool that improves understanding and makes disease progression an easier topic to talk about – particularly for those who are newly diagnosed or are experiencing disease progression for the first time.

Q: What is the best way to use the analogy when talking to your healthcare professional?

It does not necessarily need to be used all in one go. Instead, you can pick a section that relates to what you are experiencing at the time. By breaking

down the individual aspects of disease progression, it may be easier to talk about your condition and how it is affecting you.

Q: Why was an analogy around a car selected to represent MS disease progression?

A number of parallels can be drawn between progression and the 'wear and tear' a car experiences over time, and the subject of cars and mechanics introduces a broad vocabulary of unscientific language that can easily be used by people with MS and healthcare professionals. The analogy was assessed by an international team of MS community representatives, who selected the 'Mechanics of MS' over a number of other options.

The Mechanics of MS resources:

- Introducing: The Mechanics of MS analogy video
- The Mechanics of MS animation
- The Mechanics of MS infographic
- The Mechanics of MS poster

We would like to thank the Roche MS Steering Committee members who collaborated with Roche to create this analogy and its associated materials.

Disease progression in MS is always a very difficult and emotional subject. Many patients fear and dread the discussion. I am sure this video and analogy of a car mechanic makes it very clear and easy to use in a discussion with your healthcare team. It helps both people with MS and HCPs to discuss the topic and understand what disease progression is.

Person with MS

My father-in-law will love this analogy! He was struggling to understand my diagnosis - until he came up with the idea that I am a car. Sometimes you turn on the screen wipers and the headlights come on, sometimes the windows don't open.

Person with MS

The co-creation of the MS disease progression analogy and associated materials was organised and funded by Roche.

References

1. Lublin et al. Defining the clinical course of multiple sclerosis. *Neurology*. 2014 Jul 15; 83(3): 278–286.
2. NHS UK. Multiple Sclerosis. Available at: [https://www.nhs.uk/conditions/multiple-sclerosis/#:~:text=Multiple%20sclerosis%20\(MS\)%20is%20a,it%20can%20occasionally%20be%20mild.](https://www.nhs.uk/conditions/multiple-sclerosis/#:~:text=Multiple%20sclerosis%20(MS)%20is%20a,it%20can%20occasionally%20be%20mild.) Last Access October 2022.
3. Robertson and Moreo. Disease-Modifying Therapies in Multiple Sclerosis: Overview and Treatment Considerations. *Federal Practitioner*. 2016 Jun; 33(6): 28-34.
4. Strober et al. The Role of Positive Lifestyle Activities on Mood, Cognition, Well-Being, and Disease Characteristics in Multiple Sclerosis. *Applied Neuropsychology: Adult*. 2018 Jul-Aug; 25(4): 304-311.

