
MS Society
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Communicating well
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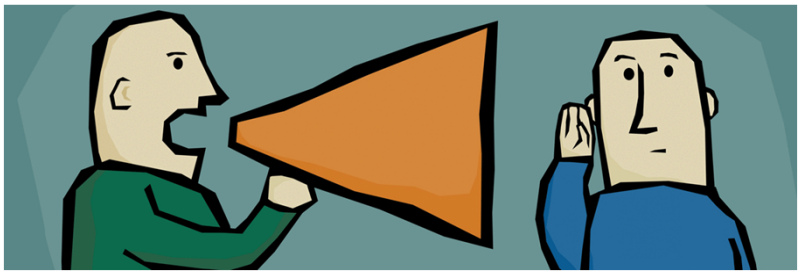
Let's stop MS together

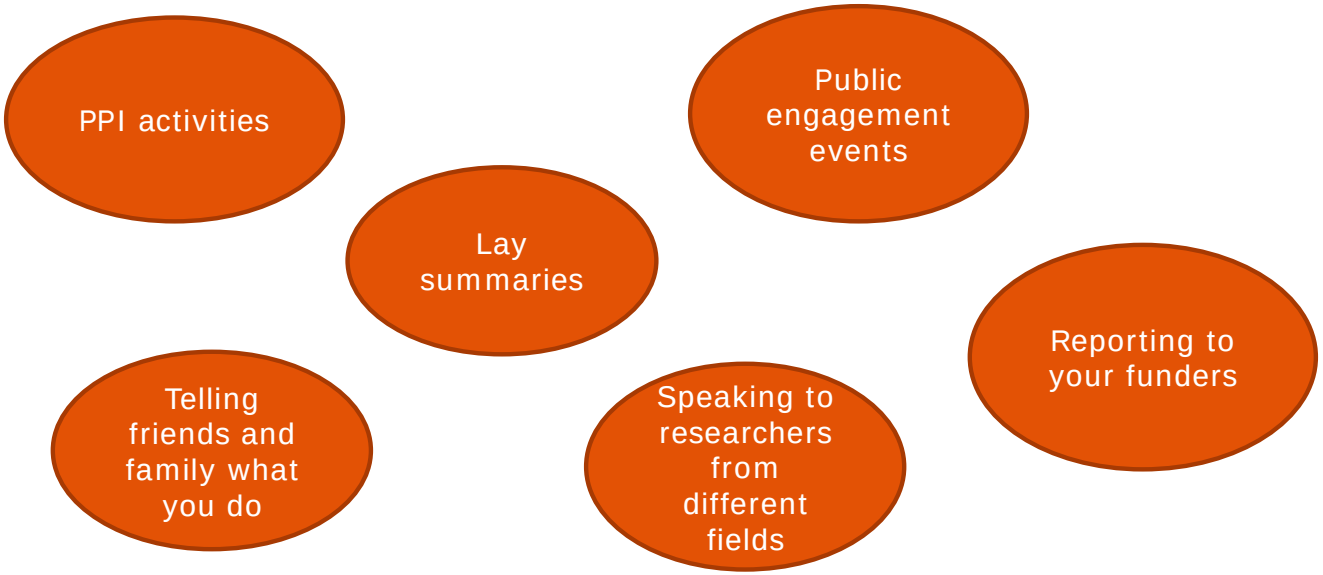
The importance of communicating well

Good communication is key to forming and maintaining good relationships and to **making involvement work**.

- People can't contribute to your work if they don't understand it!
- Increasingly in demand skill for researchers



Different types of lay communication



An oligodendrocyte is a type of glial cell that supports the function of nerve cells. Despite being found in central nervous system, a glial cell is not itself a nerve cell. The role of the oligodendrocyte is to support nerve cells to work in the most efficient way possible, with key functions including provision of oxygen to the neuron and waste removal as well as myelin production.

Myelin is a fatty substance providing protection for the nerve cell and speeding up the transmission of messages travelling along the nerve fibre - a myelinated neuron can conduct its message 100 times faster than a demyelinated one!

In MS, instead of attacking foreign cells, the body's own immune system attacks the oligodendrocytes and consequently the myelin. This leaves the nerve cells exposed, and means the nervous impulse can't be conducted as efficiently, and may even cause a 'roadblock' to the message. If a single oligodendrocyte is targeted, it could mean that up to 50 nerve cell axons may be demyelinated.

Once an oligodendrocyte has been targeted, the precursor cells recognise where the myelin has been lost and begin to regenerate and repair, leading to remyelination- and potential recovery of symptoms caused by the damage. Remyelination occurs naturally in the early stages of MS; however as the disease progresses, the ability for remyelination is lost, leading to increased disability.

Know your audience

Understanding what the **communication needs** are of your audience:

- Think about what they already know…and what they don’t know
- Identify, empathise and tailor
- Don’t assume scientific knowledge…or lack of it

Where do I start?

- **Who** are my audience?
- **What** do I want to tell them?
- **Where** am I presenting?
- **Why** am I speaking to them?
- **How** can I best communicate my work?

Build an easily understandable research story

- **Beginning** – What is the background? Why is your research question important?
- **Middle** – What are you doing?
- **End** – What does this mean for someone with MS?
- What are your **take home messages**?
- What you can **omit** without changing the message?

Build an easily understandable research story

- **Beginning** – In MS, the protective myelin coating is damaged, causing symptoms such as mobility problems, fatigue and bladder and bowel problems. In order to stop MS, we need to find ways to repair the myelin damage and get nerve cells working again.

- **Middle** – Myelin is naturally repaired in the brain by cells called oligodendrocytes. But these cells stop working properly as we age. To effectively repair myelin we need to encourage these cells to work as efficiently as possible. We've found a protein that looks to be important in oligodendrocyte function. And we're now using mouse models to search for drugs that targets this protein.

- **End** – If we can find drugs that promote oligodendrocyte function and repair myelin, we will be a step closer to stopping MS for everyone.

- **Take home messages**: Myelin repair is an important area of MS research; we've found a potential drug target; finding treatments could help everyone with MS

How to write in our tone of voice?

Our writing style must be:

- Clear
- Concise
- Engaging
- Relevant and appropriate for your audience

How?...

- Everyday English
- Short sentences
- Active voice
- Personal pronouns
- Avoid unnecessary words
- Avoid jargon

"Never use a long word when a short one will do."

George Orwell, Politics and the English Language

Examples of scientific to lay conversion

- Elucidate = find out
- Analgesics = painkillers
- Novel therapeutics = new treatments
- Molecules XYZ, ABC and EFG = a number of molecules
- SNPs = naturally occurring genetic differences
- Cultured *in vitro* = grown in the laboratory
- Oligodendrocyte = myelin-making cell

Top tips!

- **Do** consider your audience carefully
- **Do** look for guidance or examples
- **Do** ask for help if you are unsure
- **Do** practice with a non-scientist
- **Do** ask for feedback
- **Do** learn from your mistakes!

Common mistakes

- **Do not** reuse work intended for other audiences (unless appropriate)
- **Do not** use acronyms or complicate matters with too many molecules
- **Do not** overdo the bracket explanations (this is where you use a complicated word and explain what it means in brackets)
- **Do not** make assumptions about what the reader will know
- **Do not** oversimplify

We have recently completed a comprehensive expression analysis in resting CD4+ and CD8+ T lymphocytes. This study revealed substantial differences in gene regulation between healthy controls and patients; including the existence of genotype-dependent regulatory elements that are only active in patients. It follows that associated genotypes might exert their effects on risk by predisposing particular immune cell subtypes to adopt transcriptional states that lead to the dysfunctional behaviour noted in MS. Elucidating these transcriptional states will enable drug development to be directed towards products capable of restoring normal gene regulation and thereby treating the disease.

We recently carried out an experiment in the laboratory where scientists looked at the instructions found in your cells that tell your body how to behave. We found that some of these instructions that are passed on to you from your parents may mean you're more likely to get MS.

We are trying to find the key genes – called master regulators – that control the behaviour of immune cells in people with MS.

Many of the genetic changes associated with MS don't alter how a particular gene works, but instead change how much the cell uses it (this is called gene expression).

And recent research shows that gene expression is different in immune cells from people who have MS, compared with people who don't. We think this is due to master regulator genes being different in people with MS, and changing the expression levels of the genes they control.

This study aims to identify those master regulators and understand how they're involved in what goes wrong in immune cells in people with MS.

If successful, this work will pave the way towards finding treatments that can target the genes that control immune cells, and therefore stop immune attacks in MS.

Activity

- Working in pairs or groups
- Look through your lay documents.
- Are there ways that you feel it could be improved?

Communicating in lay language is an important skill

- Increasingly more of a requirement than a ‘nice to do’
- Important transferable skill for research and beyond
- Being a good lay communicator is an art
- Seize every opportunity to practice - a good communicator is a better researcher
  - talk to patient groups
  - take part in engagement events
  - contact your funders (write for us!)

“Science isn’t finished until it’s been communicated”

Professor Sir Mark Walport, Chief Scientific Advisor to the UK Government