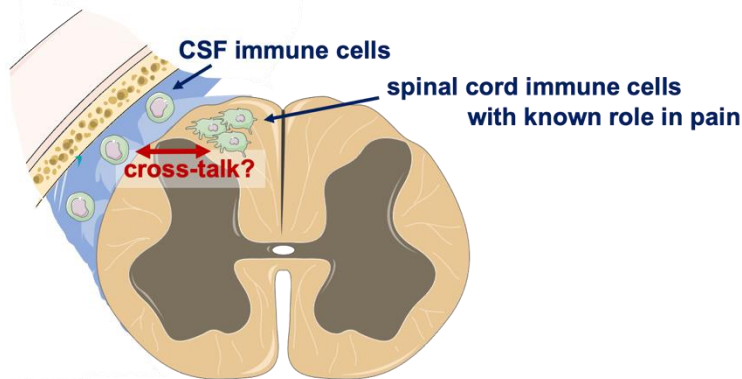


Cerebrospinal fluid- a window into how our central nervous system processes pain?

This study aims to find out whether we can use cerebrospinal fluid (which bathes our brain and spinal cord) to better understand chronic pain.



Research suggests that immune cells in the spinal cord play an important role in maintaining painful conditions, especially when they are caused by direct damage to nerves. Yet, for obvious reasons, studying these cells directly is impossible in people.

Our team want to investigate whether we can instead assess the

state of these cells by looking at the cerebrospinal fluid (CSF). It is known that substances released in spinal cord can leak into the fluid. Also, there are immune cells swimming about in the CSF – just across from spinal cord immune cells, and it is possible that these cell types are talking to each other.

To test whether this is the case, we are analysing CSF generously donated by individuals who are undergoing neuromodulation surgery to treat their pain. We look at the substances in the fluid, as well as the immune cells, with a technique called RNA sequencing. This work receives support from both the Pain Relief Foundation and the Rosetrees Trust.