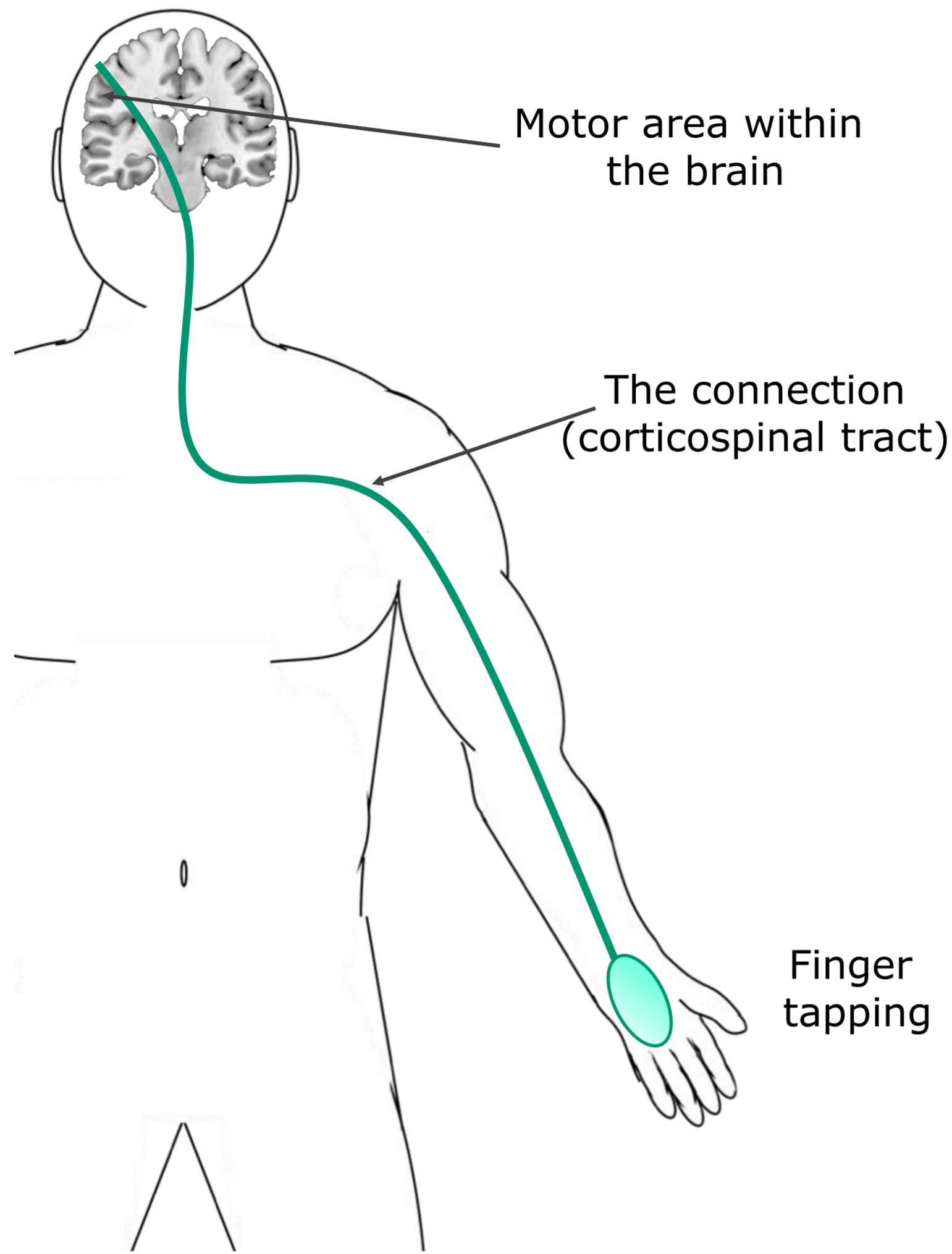


The Ageing Brain - the motor system

Nik Sharma
Consultant Neurologist

The motor system



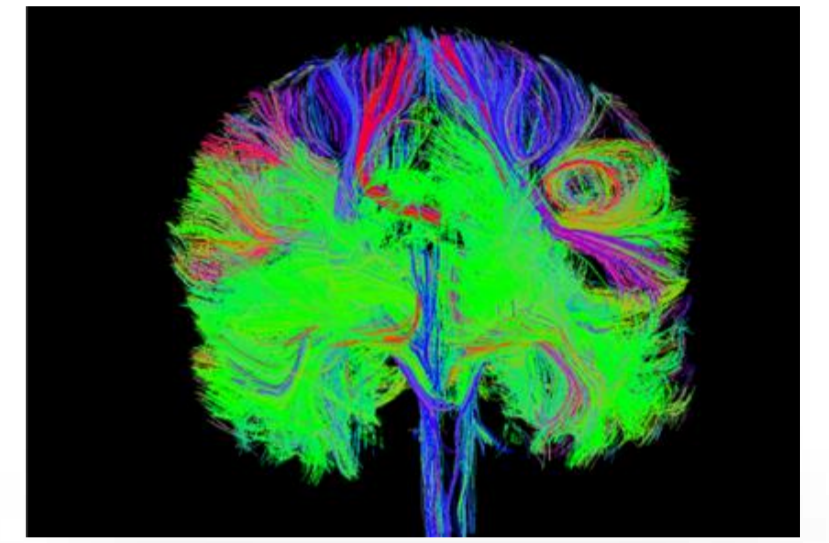
The human brain



Using an MRI brain scan we can now track changes in the structure of the brain and the connections between regions.

The structure of human brain is constantly changing to maintain performance. This is called *neuroplasticity*.

For instance violin players who start playing early in childhood have larger area dedicated to the hand than others.



Data from NSHD provides an opportunity to explore how factors early in life relate to brain structure & function later in life.



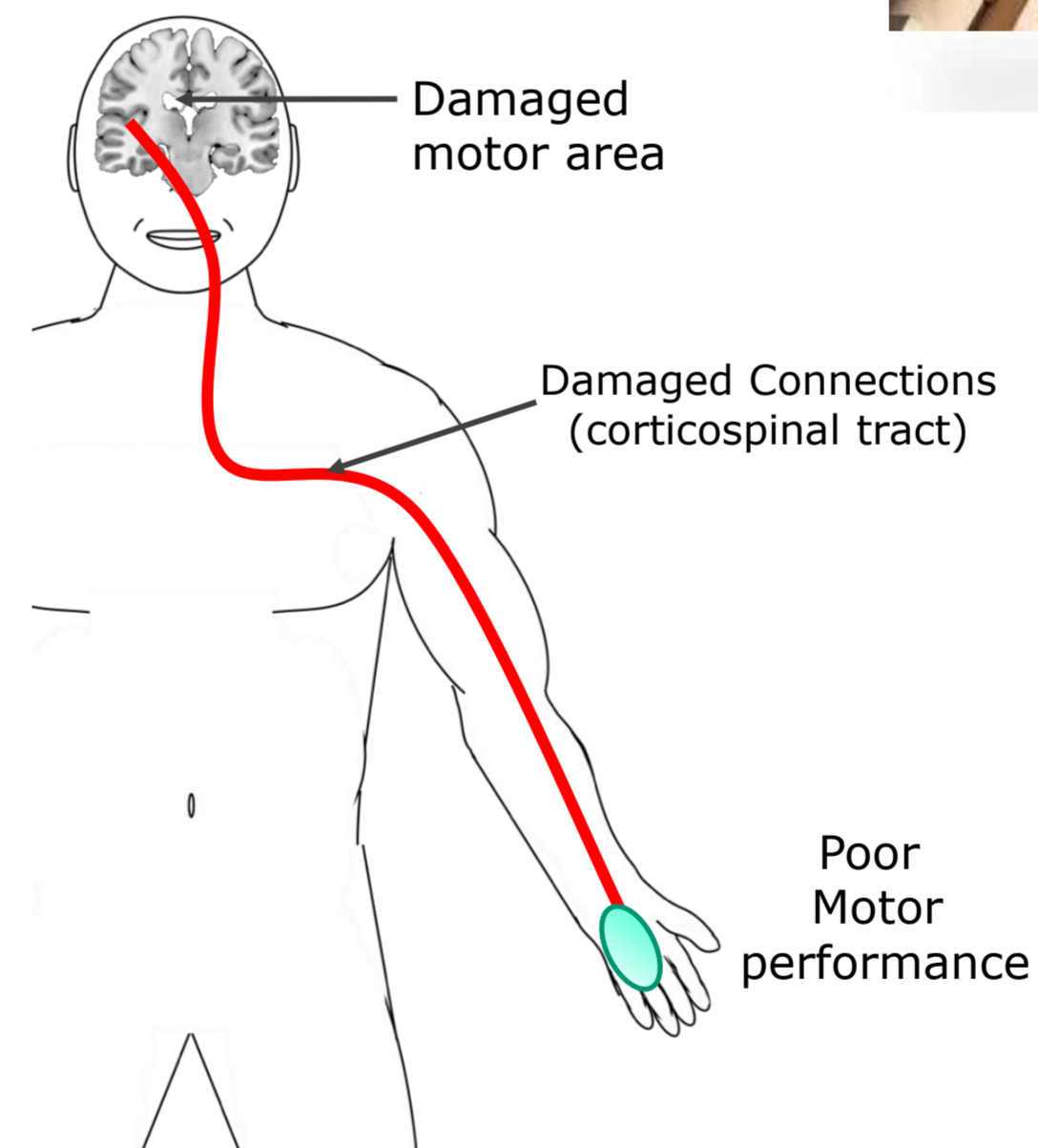
Brain structure at age 69 is related to...



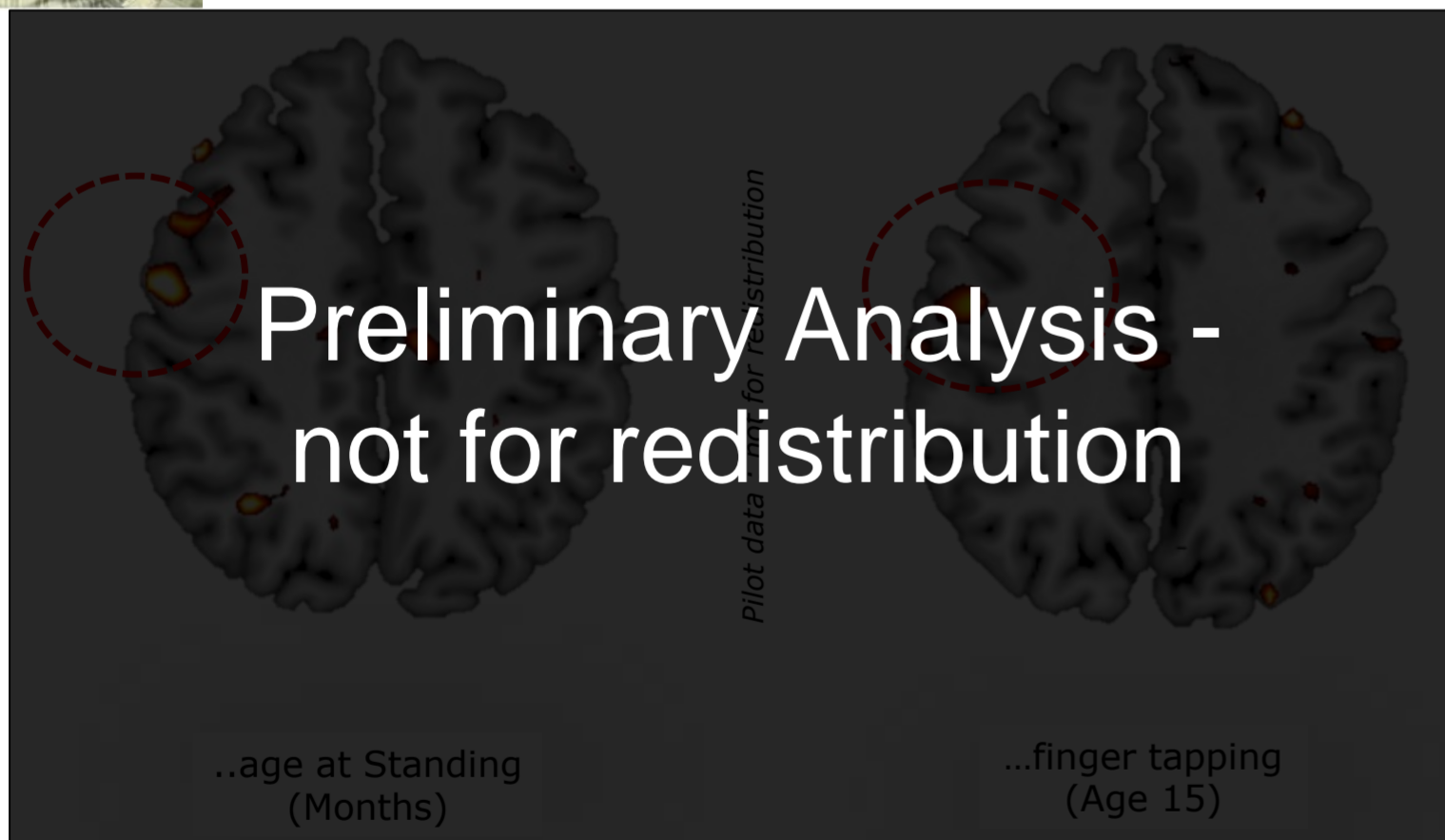
Neurological disorders e.g. Motor Neuron Disease



National Hospital of Neurology



Age is the biggest risk factor for most neurological diseases.

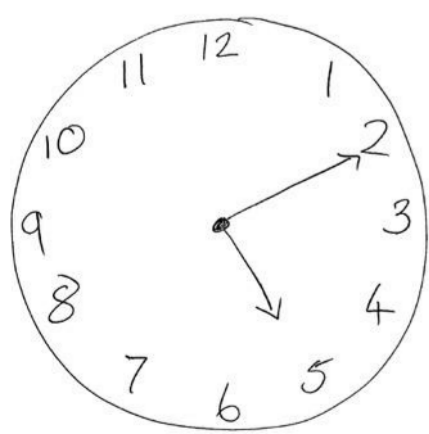


NSHD will help us understand many neurological diseases

Cognitive tests (Sharma & Richards)

Cognitive assessments such as those on the iPad are used in clinical practice.

Understanding how life time cognitive, physical and mental function relate to these cognitive assessments will be important in management of patients.



Exploring gait variability (Cooper & Sharma)



Using measurement of gait variability from the sub-study, we plan to explore how measures physical performance in early life and adulthood relate to gait age 69.

New Technology opens new doors! (Wong, Curran, Shah & Sharma)

Alternative cognitive tasks
GIVE IT A GO ON THE IPAD!

