



# Concussion Service & Concussion Research Interest Group (CRIG)

## Who are we?

A group of clinicians, scientists, engineers, former rugby players and activists centered in the **Department of Neurology at St James's hospital and Trinity College Dublin**; dedicated to detecting, assessing and preventing brain injury in contact sports.

## What is our mission?

To provide state-of-the-art clinical care and research aimed at understanding the consequences of concussion (mild traumatic brain injury), with a view to generating evidence-based guidelines that will assist in determination of severity of injury, rehabilitation requirements, back to play protocols and prognosis for future brain health.

## What are we Suggesting?

- During the year of retirement from the professional sport, we will invite all jockeys to St James's hospital for a full day of neurological and cardiovascular assessments.
- The assessment will use the state of the art MRI, laboratory and exercise rehabilitation facilities located in the new clinical research facility (CRF) on the campus of the hospital.
- The assessment will provide a comprehensive screening of the state of cardiovascular and brain health at the time of retirement and a special feedback session will be arranged to provide advice on future lifestyle and activity advice.
- The data will also be used to add to the extensive research and development programme linked with Trinity College research laboratories with national and international cooperation. It is expected that we will invite participants to repeat the studies every five years to create a unique longitudinal repository of brain health information over 25 years.

## Scope of examination:

All patients will undergo a highly sophisticated assessment, without charge, as follows:

1. **High-resolution state-of-the-art 3-Tesla magnetic resonance imaging (MRI)** including Functional MRI.
2. **Cardiovascular assessment** with **Cardiac MRI**, Stress test and cardiac risk factor analysis
3. **Neurocognitive assessment** of processing speed, memory, attention, executive function and language.
4. **Analysis of ocular Microtremor and Visual eye tracking** pre and post concussion.
5. **Analysis of retinal vein tortuosity/aberrant vascular patterning.**



6. **Analysis of blood levels of products of blood brain barrier disruption** pre and post concussive brain injury such as.
7. **Analysis of DNA samples** to understand genetic susceptibility to brain injury.
8. **Rehabilitation and prognostic assessment** and physiotherapy or occupational therapy as required.

Patients who agree to undergo a research protocol will be required for 6 hours testing

### Staff

1. Prof Jim Meaney – Professor of Radiology
2. Dr Colin Doherty – Consultant Neurologist
3. Dr Eugene Wallace – Consultant in Rehabilitation Medicine
4. Dr Eoin Kelly - SPR in Emergency Medicine- research Fellow in Traumatic brain Injury
5. Niamh Doyle – Neuropsychology
6. Matt Campbell – Associate Professor of genetics and Brain Injury, TCD
7. Gerry Boyle – Medical Physics

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