



## UPMC CONCUSSION NETWORK PARTNERS

A world-renowned health care provider and insurer, UPMC is inventing new models of patient-centred and cost-effective care. By combining both clinical and research excellence, the global academic health network provides high-quality patient care across the communities it serves. The close affiliation with the University of Pittsburgh drives ground-breaking research and ensures a rapid translation of research to the bedside.

Affidea is Ireland's leading independent provider of diagnostic imaging services and works with the best qualified medical and technical professionals to maintain its commitment to the provision of a personalised service and patient well-being.

As Ireland's largest independent Hospital Group, Bon Secours Health System is renowned for the quality of its service provision coupled with a rich tradition in healthcare. Bon Secours Health System is a not for profit organisation and its mission is centred on providing compassionate, world-class medical treatment to all those it serves.

# UPMC CONCUSSION NETWORK

## Nationwide Comprehensive Concussion Management



UPMC policy prohibits discrimination or harassment on the basis of race, color, religion, ancestry, national origin, age, sex, genetics, sexual orientation, gender identity, marital status, familial status, disability, veteran status, or any other legally protected group status. Further, UPMC will continue to support and promote equal employment opportunity, human dignity, and racial, ethnic, and cultural diversity. This policy applies to admissions, employment, and access to and treatment in UPMC programs and activities. This commitment is made by UPMC in accordance with federal, state, and/or local laws and regulations.

**The UPMC Concussion Network** will streamline neurocognitive testing and treatment of concussion within a system of providers. The network will shape the conversation about concussion through education and develop easy access to viable, standardised concussion testing and treatment.

UPMC's internationally recognised Concussion Management Programme is the foundation for developing consensus-driven and evidence-based treatment pathways in Ireland. By standardising treatment within a coalition of health care providers, we will create strong public awareness that concussions, when managed properly, are treatable injuries.

Through educating athletes, parents, physicians, physiotherapists, and general practitioners on this complex injury, network partners can help keep athletes and patients safe and healthy.

### CONCUSSION TESTING AND TREATMENT

To avoid repeat injury and potential consequences, it is critical to manage concussions until complete recovery. The UPMC Concussion Network will coordinate the expertise of physicians, physiotherapists, general practitioners, neurologists, and others to offer athletes and patients of all ages a personalised, multidisciplinary approach to concussion management.

Every patient evaluated by the UPMC Concussion Network will undergo a comprehensive evaluation of their injury in order to uncover the diverse array of symptoms and deficits that can occur after a concussion. Each evaluation includes a thorough clinical interview of the patient's injury and symptoms, neurocognitive testing, vestibular-oculomotor screening, and potentially other assessment modalities depending on the nature of the injury. This comprehensive assessment allows for the development of an individualised treatment plan for the athlete or patient.

### Neurocognitive Testing

To continually improve patient diagnosis and treatment outcomes, UPMC concussion experts co-developed **ImPACT®** (Immediate Post-Concussion Assessment and Cognitive Testing), a software-based neurocognitive assessment tool. ImPACT® involves comparatively evaluating two sets of tests intended to measure a patient's neurocognitive activities before and after a suspected concussion has occurred. These tests are referred to as "baseline" and "post-injury".

ImPACT® is an FDA-approved, computer-based test that evaluates and documents multiple aspects of an athlete's neurocognitive state, such as:

- Brain processing speed
- Memory
- Reaction time
- Visual motor skills

The data collected through ImPACT® and the comprehensive evaluation of concussion are used to assist in the development of a personalised treatment plan, which may include referrals for:

- Neuro-otology, physical medicine and rehabilitation, and orthopaedic evaluations
- Neuroradiology or neuroimaging

### UPMC CONCUSSION NETWORK CARE PATHWAY



- Medication management
- Vestibular evaluation and therapy
- Physical exertion training and rehabilitation
- Behavioural neuro-optometry and vision therapy

**Affidea**, Ireland's leading independent provider of diagnostic imaging services, has teamed up with the UPMC Concussion Network to train their staff on administering ImPACT® neurocognitive baseline and post-injury tests. Affidea locations can be found on its website: <https://www.affidea.ie/>.

Interpretation of ImPACT® assessment results will be performed by medical professionals who have successfully completed specialised training developed and delivered by UPMC's concussion experts. Medical professionals who complete the UPMC concussion training become a part of the network, receive ongoing support from UPMC's multidisciplinary team of experts, and have access to the latest research-based concussion management protocols.

More information about ImPACT® can be found on its website: <https://impacttest.com/>.

### UPMC's Personalised Treatment Approach

UPMC concussion experts, led by world-renowned concussion expert Micky Collins, PhD, have identified six concussion clinical trajectories (which often overlap) which necessitates the creation of an individualised treatment plan for each patient. This may include physical therapy to treat symptoms of the injury or medication management if certain concussion symptoms persist. Partners within the UPMC Concussion Network will continually re-examine patients to evaluate progress and promote successful rehabilitation. A unique aspect of concussion care through the UPMC Concussion Network is the emphasis

on active treatment. No concussion injury is alike, and through sophisticated assessment tools and the clinical expertise of the UPMC Concussion Network all treatment plans are tailored directly to the individual patient.

### Concussion Rehabilitation

Depending on the specifics of the injury and the symptoms that appear, UPMC-trained clinicians may test for and treat balance and ocular problems. Rehabilitation treatment may include techniques that help retrain the brain to understand complex environments that include space, motion, and head or eye movements with exercises that focus on vision, balance, and gait.

In addition to vestibular therapy, concussion rehabilitation may also include work with exertion trainers. UPMC-trained clinicians help reintroduce the patient's vestibular system to dynamic activities in a careful and deliberate way. They work with patients to safely increase heart rate through a variety of regimens, such as cardiovascular exercise, strength training, agility drills, or plyometrics, and adjust the regimens according to the patient's progress. They also tailor exertion therapy for the patient's particular sport or activity.

Consultant physicians and physiotherapists at **Bon Secours Health System**, Ireland's largest private hospital group, are trained in UPMC's concussion protocols standards, and are preparing for concussion evaluation and treatment at select hospitals nationwide. More information about Bon Secours Health System can be found on its website: <https://www.bonsecours.ie/>.

