



# CARRICK INSTITUTE

CLINICAL NEUROSCIENCE AND REHABILITATION™

## Carrick Institute August 11, 2023

### Functional Neurology Management of Concussion Level 1 Tuition Paid In Full

- \$2,995 USD, approx. \$4,064.36 CAD

### Functional Neurology Management of Concussion Level 1 Tuition Paid In Installments -

- \$3,084.85 USD, approx. \$4,225.08 CAD

### Program Hours

- 5 Chapters (4 Online Chapters and 1 (25 Hour In Person Chapter) - 70 Total Hours

### Travel Cost

- 3 Hotel Nights - \$648.71CAD - hotel (\$216.23CAD per night)

### Program Information

- <https://carrickinstitute.com/programs/functional-neurology-management-of-concussion/>

**Start Date** - September 14, 2023

**End Date** - September 13, 2024

**This Course must be completed within one year of the start date.**

Presented by: Matthew Antonucci, DC, DACNB, FACFN, FABCDD, FABNN, FABVR, FABBIR, FICC  
Dr. Antonucci Bio - <https://drantonucci.com/about-dr-antonucci/>

## Functional Neurology Management of Concussion Level 1

### About

Over the past 40 years, the brilliance and leadership of Prof. Frederick R. Carrick has established Carrick Institute the undisputed leader of education in functional neurology. Carrick Institute has proudly produced the educational curricula that has enabled more than 18,000 functional neurology providers to deliver their patients unprecedented results. Our mission is unwavering and focus is explicit. We deliver the highest quality training in an effort to help produce the world's best clinicians. The purpose of FN-MOC is just another example of that. We plan to make you an authority in concussion management, from diagnosis to rehabilitation, with true-to-style content breadth, depth, and clinical applications.

Level 1 is 70 hours of education focused specifically on critically evaluating consensus statements and current publications, to guide in the development of a contemporary, comprehensive approach to concussion/mTBI. We discuss risk factors that may predict concussion. We examine factors that make individuals more vulnerable to sustaining a concussion. The pathophysiological story of an mTBI is reviewed, from the mitochondria through the abstract concept of neural networks and graph theory. We discuss the time of impact management, and urgent care, including hospital protocols, imaging algorithms, and acute care. Utilizing the decades of research that exists on concussion symptoms and clinically-evaluated dysfunction, we lay the pedagogical foundation of this course on the 7 concussion phenotypes. Special attention is given to ensure the development of competency in the entrustable professional activities of assessing each phenotype empirically, with minimal technology, and unprecedented confidence.

## Learning Objectives

### CHAPTER 1

Consensus Guidelines and Recommendations [Concussion Primer Flipped Classroom (via online self-paced learning)]

- Definitions and Causes of mTBI / Concussion
- Pathophysiology of mTBI / Concussion
- Epidemiology of mTBI / Concussion
- The Acute Management and Urgent Care of mTBI / Concussion
- Treatments for Acute of mTBI / Concussion

### CHAPTER 2

Evaluation of the Intangible Effects of Concussion (via online self-paced learning)

- The Importance of Obtaining Baseline Brain Health Measurements
- Measuring Consciousness
- Pathophysiology of Cortical and Subcortical Structures in mTBI
- Phenotyping Concussions
- Collecting Data and Creating Predictions/Prognosis
- Creating a Concussion Intake Form
- The Relationship Between Sensory Seeking Behaviors and Mental Toughness and Concussion
- Tools for Assessing the Symptom Burden of mTBI

- Outcome Assessment Tools for Concussion, and Health-Related Quality of Life (HRQoL)
- The Screening of Affect for Non-Psychologists
- Screening for Sleep Disturbances in Concussion
- Screening for Autonomic Dysfunction in mTBI
- Supporting Literature Reviews on All Previously Listed Topics
- Library of Outcome Assessment Tools and Patient Reported Outcome Measures

## CHAPTER 3

Quantifying Concussion-Related Brain Function at the Bedside (via online self-paced learning)

- Analysis and Comparison of Contemporary Concussion Evaluation Tools (Screening, Confirmatory, Objective)
- The Embryological Development of Sensory Processing and Motor Control and Its Application to mTBI and Concussion
- The Role of the Physical Examination in mTBI and Concussion
- The Interpretation and Correlation of Vital Signs in Relationship to mTBI
- The Bedside Evaluation of Autonomic Function in Concussion
- Evaluating Cognitive Performance
- Optometric and Orthoptic Functional Evaluation
- Assessing Somatesthesia and Motor Control
- The Bedside Evaluation of Assessment of Graviception, Linear and Angular Movement
- Evaluating the Effects of Sensory Error on Autonomic Function

## CHAPTER 4

Creating and Performing an Evidence-Based Baseline/Concussion Examination (On-site Training – 3 days)

- This is a 3-day, hands-on, skill-development course. You will be the doctor and the patient. You will leave with certifiable proficiency in performing the examination procedures detailed in Chapter 3, and the results of your personal brain health baseline assessment. Please wear loose fitting clothing and bring the tools introduced in Chapter 3
- This course consists of more than 50 EPAs or **Entrustable Professional Activities** that will be taught and perfected throughout the weekend. Scholars will need to attend, be assessed for proficiency, and must pass to achieve FN-MOC certification status.

## CHAPTER 5

Management of Concussion Sequela (via online self-paced learning)

- Addressing Pathophysiology: Ketones
- Addressing Pathophysiology: Hyperbaric Oxygen Therapy
- Addressing Pathophysiology: Molecular Hydrogen
- Addressing Pathophysiology: Transcutaneous Vagal Nerve Stimulation
- Addressing Pathophysiology: Photobiomodulation
- Dietary Supplementation
- Return to Activities/Play, and Medical Clearance
- Graded Aerobic Exercise
- Managing Cervical Syndromes
- Managing Vestibular Syndromes
- Managing Visual/Oculomotor Syndromes
- FN-MOC Evidence Guided Return To Life (RTA/RTP)

## FN-MOC CERTIFICATION

- Chapter 4 must have been completed on-site and proficiency confirmed by the course instructor.
- All 5 chapters must be complete at the time of application.
- At the time of examination, applicants must present 15 de-identified, but verifiable, direct-contact experiences with an individual or individuals with concussion or mTBI.
- Applicant must receive a passing score on the examination:
  - 100 Multiple-Choice Questions
    - Must score 80% or higher
  - 5 essay questions, 20 points each (grading rubric will be furnished at the time of examination)
    - Must score 80% or higher

## Program Structure

This program utilizes a specific pedagogy to ensure the best learning experience for attending clinicians, while also making it available to clinicians worldwide.

## FLIPPED CLASSROOM

A flipped classroom is a style of blended learning that introduces crucial foundational concepts before the main lectures and applications are taught. This allows all scholars to enter the main program on the same level and encourages deeper learning on more advanced topics during the main lectures.

## INTERACTIVE ASYNCHRONOUS LEARNING

Interactive asynchronous learning allows you to learn on your own schedule. The main lectures are pre-recorded and will be available 24/7 on your online learning portal. Our online learning features interaction through knowledge-check questions embedded throughout the lectures, quizzing, and submission of open-ended written competency evaluations. The material will remain on your learning portal as long as one maintains an active Carrick Institute account. We encourage scholars to review the material several times for the best learning experience.

## ONSITE-LEARNING

To achieve certification status, one must attend the onsite portion for each level. The onsite learning will carefully instruct clinicians on the hands-on skills they need to know for proficiency in the management and rehabilitation of concussions.

Level 1 has an onsite module that is required to attend to receive certification status.

Level 1 – Chapter 4 (Creating and Performing a Baseline Assessment): 3 days onsite (25 neurology hours)

## Why the Carrick Institute?

The Carrick Institute has provided clinical graduate school education for healthcare professionals for over four decades. Our faculty are experienced clinician educators that have an international reputation for excellence. Our course instructor is recognized throughout the world for his clinical applications in this knowledge area. Professional athletes, Olympians, Collegiate athletes, celebrities and more call on Carrick faculty members from around the world when they have suffered brain injury or neurological compromise, or any decrease in their performance.

## What's Included in Your Tuition

- 70 hours of lecture time within each module
- All-Access to the digital recording of the class
- Re-attendance – Retake the class on-site, via Livestream, or via online, self-paced learning as many times as you'd like as an audit
- All-Access to the flipped classroom material
- 3 months of unlimited access to Medline Access upon completion of the module
- 70 Hours Of Training (*consists of online learning plus a 3-day onsite training for Module 4 – Creating and Performing a Baseline Assessment*)

## Textbooks & Equipment List for Functional Neurology Management of Concussion

### Functional Neurology Management of Concussion Textbook Recommendations

<https://www.springerpub.com/brain-injury-medicine-third-edition-9780826143044.html>

<https://www.concussiontbi.com/about-the-book>

### Functional Neurology Management of Concussion Equipment List -

<b>Worth 4 Dot Test (Flashlight/Penlight Top/RG Glasses)</b>	AliExpress	<a href="https://www.aliexpress.com/item/3256802365950731.html?gatewayAdapt=4itemAdapt">https://www.aliexpress.com/item/3256802365950731.html?gatewayAdapt=4itemAdapt</a>
<b>Phoria Cards</b>	Bernell	<a href="https://www.bernell.com/product/BC1209/Assessments_BestSellers">https://www.bernell.com/product/BC1209/Assessments_BestSellers</a>
<b>Handheld Risley Prism</b>	Bernell	<a href="https://www.bernell.com/product/ARPHH30/Index_H">https://www.bernell.com/product/ARPHH30/Index_H</a>
<b>Clickable Pen Lights (Not Phone Lights)</b>	Brilliang Promos	<a href="https://www.brilliantpromos.com/ap/Medical-Clickable-LED-Penlight-With-Pupil-Gauge-552151274?gclid=CjwKCAjwm8WZBhBUEiwA178UnFWiTCMEwJhlq_U-9I2Iq5yPr7tONIQCUIjAD5ZA1QfGBm1KHat4WLxoCancQAVD_BwE">https://www.brilliantpromos.com/ap/Medical-Clickable-LED-Penlight-With-Pupil-Gauge-552151274?gclid=CjwKCAjwm8WZBhBUEiwA178UnFWiTCMEwJhlq_U-9I2Iq5yPr7tONIQCUIjAD5ZA1QfGBm1KHat4WLxoCancQAVD_BwE</a>

<b>Brock Strings</b>	Brock String Store	<a href="https://www.amazon.com/Foot-Brock-String-Convergence-Performance/dp/B01MEFCD1/ref=sr_1_5?keywords=brock+strings&amp;qid=1664214721&amp;sr=8-5">https://www.amazon.com/Foot-Brock-String-Convergence-Performance/dp/B01MEFCD1/ref=sr_1_5?keywords=brock+strings&amp;qid=1664214721&amp;sr=8-5</a>
<b>Protractors</b>	EBOOT	<a href="https://www.amazon.com/eBoot-Plastic-Protractors-Protractor-Degrees/dp/B06ZYNDT1/ref=sr_1_1_sspa?c=ts&amp;keywords=Protractors&amp;qid=1664213093&amp;s=office-products&amp;sr=1-1-spons&amp;ts_id=1069032&amp;psc=1">https://www.amazon.com/eBoot-Plastic-Protractors-Protractor-Degrees/dp/B06ZYNDT1/ref=sr_1_1_sspa?c=ts&amp;keywords=Protractors&amp;qid=1664213093&amp;s=office-products&amp;sr=1-1-spons&amp;ts_id=1069032&amp;psc=1</a>
<b>Fixation Sticks</b>	Fixation Sticks	<a href="https://medexsupply.com/color-fixation-sticks/">https://medexsupply.com/color-fixation-sticks/</a>
<b>Maddox Rods (Frosted Occluder) Red</b>	Goodlite	<a href="https://www.opentip.com/Good-lite-GI-Green-Maddox-Frosted-Occluder-p-14351024_GL-T-595300.html?ats=gs&amp;srsltid=AR5OiO2Xc4YvuclGtWm-VgTowWijlevITDIKFlwABA7gCMEqSN71DxePog">https://www.opentip.com/Good-lite-GI-Green-Maddox-Frosted-Occluder-p-14351024_GL-T-595300.html?ats=gs&amp;srsltid=AR5OiO2Xc4YvuclGtWm-VgTowWijlevITDIKFlwABA7gCMEqSN71DxePog</a>
<b>Maddox Rods (Frosted Occluder) Green</b>	Goodlite	<a href="https://www.opentip.com/Good-lite-GI-Green-Maddox-Frosted-Occluder-p-14351024_GL-T-595300.html?ats=gs&amp;srsltid=AR5OiO2Xc4YvuclGtWm-VgTowWijlevITDIKFlwABA7gCMEqSN71DxePog">https://www.opentip.com/Good-lite-GI-Green-Maddox-Frosted-Occluder-p-14351024_GL-T-595300.html?ats=gs&amp;srsltid=AR5OiO2Xc4YvuclGtWm-VgTowWijlevITDIKFlwABA7gCMEqSN71DxePog</a>
<b>Stethoscope</b>	Greater Goods	<a href="https://www.amazon.com/GreaterGoods-Dual-Head-Stethoscope-Assessing-Examinations/dp/B088P65HWN/ref=sr_1_4?crid=2W0NGF54ICKHB&amp;keywords=stethoscope&amp;qid=1664210048&amp;s=hpc&amp;srefix=stethos%2Chpc%2C1043&amp;sr=1-4">https://www.amazon.com/GreaterGoods-Dual-Head-Stethoscope-Assessing-Examinations/dp/B088P65HWN/ref=sr_1_4?crid=2W0NGF54ICKHB&amp;keywords=stethoscope&amp;qid=1664210048&amp;s=hpc&amp;srefix=stethos%2Chpc%2C1043&amp;sr=1-4</a>
<b>Pinhole Occluders</b>	Medarchitect	<a href="https://www.amazon.com/Ophthalmic-Eye-Occluder-Pinholes-Black/dp/B073GX97GQ/ref=pd_bxgy_img_sccl_1/142-6072555-7276235?pd_rd_w=ZGvbh&amp;content-id=amzn1.sym.7757a8b5-874e-4a67-9d8">https://www.amazon.com/Ophthalmic-Eye-Occluder-Pinholes-Black/dp/B073GX97GQ/ref=pd_bxgy_img_sccl_1/142-6072555-7276235?pd_rd_w=ZGvbh&amp;content-id=amzn1.sym.7757a8b5-874e-4a67-9d8</a>

		<a href="https://www.amazon.com/dp/B073GX97GQ">5-54ed32f01737&amp;pf_rd_p=7757a8b5-874e-4a67-9d85-54ed32f01737&amp;pf_rd_r=Y7T9JY5JGSE8FCEP0MQP&amp;pd_rd_wg=fkxS8&amp;pd_rd_r=e2d3485f-b554-4cc3-abc2-414b65f41b1c&amp;pd_rd_i=B073GX97GQ&amp;th=1</a>
<b>Maddox Phoria Measure</b>	MedEx Supplies	<a href="https://medexsupply.com/good-lite-monocular-maddox-phoria-measure-large/?gclid=CjwKCAjwm8WZBhBUEiwA178UnPHsnH-Bvb2-xOyYWIhxmh0mMnVQpSkqivoKbZicK2Z_h_TCrUnzF6hoCHIAQAvD_BwE">https://medexsupply.com/good-lite-monocular-maddox-phoria-measure-large/?gclid=CjwKCAjwm8WZBhBUEiwA178UnPHsnH-Bvb2-xOyYWIhxmh0mMnVQpSkqivoKbZicK2Z_h_TCrUnzF6hoCHIAQAvD_BwE</a>
<b>OPK Tapes</b>	MedEx Supplies	<a href="https://medexsupply.com/good-lite-optokinetic-flag-red-white-1-5-segments/?gclid=CjwKCAjwm8WZBhBUEiwA178UnNUuHsUinqkQrnEd5dzfbdQNjM41aBcq2Fc1KoSdfDCN-HNfqYyBDxoCLSkQAvD_BwE">https://medexsupply.com/good-lite-optokinetic-flag-red-white-1-5-segments/?gclid=CjwKCAjwm8WZBhBUEiwA178UnNUuHsUinqkQrnEd5dzfbdQNjM41aBcq2Fc1KoSdfDCN-HNfqYyBDxoCLSkQAvD_BwE</a>
<b>Motion Guidance Kits</b>	Motion Guidance	<a href="https://www.motionguidance.com/products/motion-guidance-clinic-kit?variant=">https://www.motionguidance.com/products/motion-guidance-clinic-kit?variant=</a>
<b>Polar H10 Chest HR Monitor</b>	Polar	<a href="https://www.amazon.com/Polar-Heart-Monitor-Bluetooth-Chest/dp/B07H3B1HV6/ref=sr_1_2_sspa?keywords=Polar+H7&amp;qid=1664210308&amp;s=hp_c&amp;sr=1-2-spons&amp;ufe=app_do%3Aamzn1.fos.304cacc1-b508-45fb-a37f-a2c47c48c32f&amp;pssc=1&amp;smid=A3H9V1EMGQSHX7">https://www.amazon.com/Polar-Heart-Monitor-Bluetooth-Chest/dp/B07H3B1HV6/ref=sr_1_2_sspa?keywords=Polar+H7&amp;qid=1664210308&amp;s=hp_c&amp;sr=1-2-spons&amp;ufe=app_do%3Aamzn1.fos.304cacc1-b508-45fb-a37f-a2c47c48c32f&amp;pssc=1&amp;smid=A3H9V1EMGQSHX7</a>
<b>Anroid Pressure Guage</b>	Primacare	<a href="https://www.amazon.com/Primacare-DS-9197-BL-Classic-Pressure-Stethoscope/dp/B00BLGHCMG/ref=asc_df_B00BLGHCMG/?tag=hyprod-20&amp;linkCode=df0&amp;hvadid=167130959947&amp;hvpos=&amp;hvnetw=g&amp;hvrnd=16914528101043571383&amp;hvpone=&amp;hvptwo=&amp;hvc">https://www.amazon.com/Primacare-DS-9197-BL-Classic-Pressure-Stethoscope/dp/B00BLGHCMG/ref=asc_df_B00BLGHCMG/?tag=hyprod-20&amp;linkCode=df0&amp;hvadid=167130959947&amp;hvpos=&amp;hvnetw=g&amp;hvrnd=16914528101043571383&amp;hvpone=&amp;hvptwo=&amp;hvc</a>



		<a href="https://www.amazon.com/Primacare-DS-9197-BL-Classic-Pressure-Stehoscope/dp/B00BLGHCMG/ref=asc_df_B00BLGHCMG/?tag=hyprod-20&amp;linkCode=df0&amp;hvadid=167130959947&amp;hvpos=&amp;hvnetw=g&amp;hvrnd=16914528101043571383&amp;hvpone=&amp;hvptwo=&amp;hvmt=&amp;hvdev=c&amp;hvdvcmdl=&amp;hvlocint=&amp;hvlocphy=9010951&amp;hvtargid=pla-308514209691&amp;psc=1">https://www.amazon.com/Primacare-DS-9197-BL-Classic-Pressure-Stehoscope/dp/B00BLGHCMG/ref=asc_df_B00BLGHCMG/?tag=hyprod-20&amp;linkCode=df0&amp;hvadid=167130959947&amp;hvpos=&amp;hvnetw=g&amp;hvrnd=16914528101043571383&amp;hvpone=&amp;hvptwo=&amp;hvmt=&amp;hvdev=c&amp;hvdvcmdl=&amp;hvlocint=&amp;hvlocphy=9010951&amp;hvtargid=pla-308514209691&amp;psc=1</a>
<b>BP Cuffs</b>	Primacare	<a href="https://www.amazon.com/Primacare-DS-9197-BL-Classic-Pressure-Stehoscope/dp/B00BLGHCMG/ref=asc_df_B00BLGHCMG/?tag=hyprod-20&amp;linkCode=df0&amp;hvadid=167130959947&amp;hvpos=&amp;hvnetw=g&amp;hvrnd=16914528101043571383&amp;hvpone=&amp;hvptwo=&amp;hvmt=&amp;hvdev=c&amp;hvdvcmdl=&amp;hvlocint=&amp;hvlocphy=9010951&amp;hvtargid=pla-308514209691&amp;psc=1">https://www.amazon.com/Primacare-DS-9197-BL-Classic-Pressure-Stehoscope/dp/B00BLGHCMG/ref=asc_df_B00BLGHCMG/?tag=hyprod-20&amp;linkCode=df0&amp;hvadid=167130959947&amp;hvpos=&amp;hvnetw=g&amp;hvrnd=16914528101043571383&amp;hvpone=&amp;hvptwo=&amp;hvmt=&amp;hvdev=c&amp;hvdvcmdl=&amp;hvlocint=&amp;hvlocphy=9010951&amp;hvtargid=pla-308514209691&amp;psc=1</a>
<b>Royal Airforce Rule</b>	RAF Royal Air Force Ruler	<a href="https://www.bernell.com/product/RAFCR1/Measurement-Devices">https://www.bernell.com/product/RAFCR1/Measurement-Devices</a>
<b>Finger Pulse Oximeters</b>	Santamedical	<a href="https://www.amazon.com/Santamedical-Oximeter-Finger-tip-Saturation-Batteries/dp/B08HH86RT2/ref=pd_lpo_2?pd_rd_i=B08HH86RT2&amp;psc=1">https://www.amazon.com/Santamedical-Oximeter-Finger-tip-Saturation-Batteries/dp/B08HH86RT2/ref=pd_lpo_2?pd_rd_i=B08HH86RT2&amp;psc=1</a>
<b>Prism Bar (Horizontal and Vertical)</b>	Yantra	<a href="https://www.amazon.com/Brand-Ophthalmic-Vertical-Horizontal-Secured/dp/B07M7S95G3/ref=sr_1_6?keywords=prism+bar&amp;qid=1664214770&amp;sr=8-6&amp;ufe=app_do%3Aamazon.fos.304cacc1-b508-45fb-a37f-a2c47c48c32f">https://www.amazon.com/Brand-Ophthalmic-Vertical-Horizontal-Secured/dp/B07M7S95G3/ref=sr_1_6?keywords=prism+bar&amp;qid=1664214770&amp;sr=8-6&amp;ufe=app_do%3Aamazon.fos.304cacc1-b508-45fb-a37f-a2c47c48c32f</a>
<b>Airex Pads</b>	Yes4All	<a href="https://www.amazon.com/Yes4All-Balance-Pad-Large-Exercise/dp/B01B2HT2US/ref=sr_1_1_sspa?keywords=airex&amp;qid=1664214141&amp;s=office-products&amp;sr=1-1-spons&amp;psc=1">https://www.amazon.com/Yes4All-Balance-Pad-Large-Exercise/dp/B01B2HT2US/ref=sr_1_1_sspa?keywords=airex&amp;qid=1664214141&amp;s=office-products&amp;sr=1-1-spons&amp;psc=1</a>
<b>Red/Green Glasses</b>	Ruluti	<a href="https://www.amazon.com/Ruluti-Glasses-Eyeglass-Amblyopia-Training/dp/B09Y35CCJP/ref=sr_1_3?keywords=red+green+glasses&amp;qid=1665028363&amp;qu=eyJxc2MiOiI0LjA3IiwicXNhIjoieiMy4xMCIsInFzcCI6Ij">https://www.amazon.com/Ruluti-Glasses-Eyeglass-Amblyopia-Training/dp/B09Y35CCJP/ref=sr_1_3?keywords=red+green+glasses&amp;qid=1665028363&amp;qu=eyJxc2MiOiI0LjA3IiwicXNhIjoieiMy4xMCIsInFzcCI6Ij</a>

		<a href="#">luMjQifQ%3D%3D&amp;sr=8-3</a>
<b>Vestibular First Infra Red goggles</b>	Vestibular First	<a href="https://vestibularfirst.com/store/infrared-goggles/">https://vestibularfirst.com/store/infrared-goggles/</a>
<b>Welch Allyn Insufflator Bulb</b>	Amazon	<a href="https://www.amazon.ca/Welch-Insufflator-MacroView-Otoscope-EaPart/dp/B000STAMI8">https://www.amazon.ca/Welch-Insufflator-MacroView-Otoscope-EaPart/dp/B000STAMI8</a>