



"Stay Ahead of the Game"

Integrated Physiotherapy & Conditioning

Est. 2002

www.integratedphysiotherapy.com

Research-driven procedures refined by 25 years of real-world clinical practice:

Lower Limb Clinical Strength Testing in Orthopaedic, Sport, and Military Rehabilitation

Safe and accurate clinical strength testing methods to justify your reasoning and design your best lower limb rehabilitation programmes



- **Including:**
 - How to safely measure lower limb muscle strength with resistance machines, free-weights, and hand-held dynamometers, including detailed test procedures and algorithms
 - Muscle strength and its relationship with muscle performance
 - Nine clinical factors affecting muscle strength and what to do before starting strength testing
 - Indications and contraindications for clinical strength testing
 - Why manual muscle testing lays a critical foundation for all other types of clinical strength test
 - When to use resistance machines or free-weights for measuring lower limb muscle strength
 - How to analyse test data, including definitions for 'normal' muscle strength
 - How to interpret test data using three clinically-important variables (e.g. limb symmetry index), including considerations for limb dominance and asymmetry analyses
 - How to use clinical strength testing systems for commissioning long-term musculoskeletal healthcare funding
 - Minimum strength levels for the prevention of military training injuries
 - Minimum strength levels as goals of rehabilitation from lower limb bone and joint injury

Understand the relationship between muscle strength and muscle performance and know which type of clinical strength test is needed at a specific point-in-time

Course Description

Knowing when, why, and how to measure muscle strength after lower limb bone and joint injury and surgery can be challenging. This highly practical course reviews the basic science of muscle strength and muscle performance and the importance of their measurement when clinical reasoning and decision-making about patients' exercise rehabilitation progressions and readiness for return to work, sport, and military operations.

Emphasis is placed on tutor demonstration and course delegates' practice of evidence-based muscle strength tests for people with injury and surgery (i.e. clinical strength testing). Tests include open and closed kinetic chain procedures using resistance machines, free-weights, and hand-held dynamometers. Tests for the hip, knee, and ankle muscle groups will be demonstrated and practiced. Further emphasis is placed on data analysis and interpretation relative to specific lower limb injuries (e.g. ankle sprain, tibial stress fracture, knee ligament injury, femoral stress fracture) for maximising the effectiveness of rehabilitation and reducing the risk of re-injury.

Past course delegates have included clinicians from the British National Health Service (NHS), private practice, professional sport, elite netball, the British Army, and Royal Navy.

Muscle Strength and Muscle Performance

Illustrates the three-part model of muscle performance in a way that highlights how to properly analyse human function at home, work, or in sport so that you can easily design a battery of clinical strength tests specific to your patients' needs.

When you see this three-part model, you'll better understand the relationship between muscle strength and muscle performance and know which type of clinical strength test is needed at a specific point-in-time.

Clinical Factors Affecting Muscle Strength

Describes 11 clinical factors affecting muscle strength in a way that explains the critical information you need to know before starting clinical strength testing and to then perform safe and accurate test procedures.

When you hear about these 11 clinical factors, you'll better understand how to minimise clinical risk during sub-maximal and maximal effort strength testing and get high-quality data for your clinical decision-making.

Resistance Machine, Free-Weight, and Handheld Dynamometer Clinical Strength Testing Procedures

Demonstrates clinical strength testing procedures and algorithms in a way that shows you how to measure hip, knee, and ankle muscle strength so that you can design comprehensive test batteries for a variety of lower limb injuries and surgeries.

As you focus in on the details of these procedures, you'll see how to safely and effectively get reliable data for the next steps in your clinical reasoning.

Get a firm grasp of how clinical strength testing procedures lay the most important foundation for you to design your best lower limb exercise rehabilitation programmes

Indications and Contraindications for Clinical Strength Testing

Discusses the indications and contraindications to clinical strength testing in a way that clarifies how to modify test procedures for people with post-trauma and post-surgery pain in order to still get data that informs your clinical decision-making according to the stage of rehabilitation.

When you hear about these modifications, you'll understand how to better use clinical strength testing procedures as progression measures in the early stages of post-trauma and post-surgery lower limb rehabilitation.

Role of Manual Muscle Testing

Walks you through three different manual muscle testing systems in a way that points out why manual muscle testing lays a critical foundation for all other types of clinical strength test in order to then design your best test progressions across the rehabilitation process.

As you feel your way through these systems, you'll get a handle on how to easily decide to progress, maintain, or regress your lower limb rehabilitation programmes.

Critical Role of Resistance Machines

Walks you through nine advantages of resistance machines in clinical strength testing in a way that hands you a system for how and why resistance machines should be used in clinical practice so that you then know when to best combine resistance machine and free-weight test procedures.

As you practice the resistance machine test procedures, you'll get a firm grasp of how the procedures lay the most important foundation for you to design your best lower limb exercise rehabilitation programmes.

Minimum Strength Levels for the Prevention of Training Injuries in the Tactical Athlete

Discusses evidence-informed minimum strength levels for the prevention of lower limb training injuries in military, law enforcement, and emergency services personnel in a way that provides a scientific basis for selected goals of primary injury prevention interventions and enables you to better design occupation-specific physical preparation programmes.

As you hear about these minimum strength levels, you'll know how to make an objective contribution to reducing tactical athletes' predisposition for and risk of lower limb training injuries.

Know how to clearly explain why it's clinically-important for public healthcare commissioners, private patients, and other stakeholders to invest in your long-term rehabilitation service provision

Minimum Strength Levels as Goals of Rehabilitation from Lower Limb Bone and Joint Injury

Presents three systems to determine minimum strength levels in lower limb rehabilitation in a way that highlights how to quickly identify short- and long-term goals for your patients and confidently state your evidence-informed opinions about an individual's potential recovery timeline and overall prognosis.

When you see these three systems, you'll know how to always make objective clinical decisions that minimise clinical risk and maximise your patients' preparedness for late-stage exercise rehabilitation, return-to-work, and return-to-sport.

Effortless Data Analysis Procedures

Illustrates the quick and simple steps for analysing clinical strength test data in a way that spotlights five clinically important variables so that you can properly interpret test findings relative to 'normal' muscle strength, side-to-side asymmetries, and limb dominance.

As you practice the data analysis procedures, you'll see how to easily zoom in on the most important findings to then best target your rehabilitation strength training programmes.

Justifying Continuing Intervention and Long-Term Healthcare Funding

Tunes in to seven data-informed examples for why routine clinical strength testing is critical in clinical practice in a way that explains the clinical and financial benefits of continuing therapeutic interventions and enables you to convincingly justify your ongoing rehabilitation programmes.

When you hear about these seven reasons, you'll know how to clearly explain why it's clinically-important for public healthcare commissioners, private patients, and other stakeholders to invest in your long-term rehabilitation service provision.

Included course materials:

- *Course manual*: easy-to-read with all detailed slides, text, tables, templates, and digital pictures
- *Course certificate*: a signed continuing professional development certificate which you can use to demonstrate you have attended and completed this knee advanced course
- *Knee Specialist's Clinical Systems Manual II: Clinical Strength Test and Core Stability Test Reference Values for the Athlete and Soldier, 2nd Edition*
- *Clinical practice library*: PDF files of original research and applied clinical practice journal articles specific to clinical strength testing in orthopaedic, sport, and military rehabilitation
- *Expert group access instructions*: how to join the "Sports Knee Specialists" and "Tactical Athlete UK" clinical discussion and networking groups

Know how to always make objective clinical decisions that minimise clinical risk and maximise your patients' preparedness for late-stage exercise rehabilitation, return-to-work, and return-to-sport

Course Tutor

Dr Nicholas Clark, PhD, MSc, MCSP, MMACP, CSCS.
Founder, Integrated Physiotherapy and Conditioning.
Founder, Tactical Athlete UK.
Knee Consultant Physiotherapist, The Knee Rehab Lab.
Certified Strength and Conditioning Specialist.

I became interested in the human body more than 30 years ago after I dislocated one of my joints playing football and was admitted to hospital to undergo surgery. I remember being in pain, feeling afraid, and wondering if I would ever get back to normal again. Because I wanted to learn about what had happened to me, I got my hands on every anatomy and sports injuries textbook I could find.

Five years later, I started my physiotherapy degree and began to go on student clinical placements and got very confused very fast. Two patients on the same orthopaedic ward would have the same operation by two different surgeons, and the different surgeons would dictate different rehabilitation programmes for the same operation. Some Clinical Educators told me an exercise was essential for a specific knee injury, but were then unable to explain how the exercise was thought to work. As a result of these student experiences, and then as time passed as a newly qualified Physiotherapist, it became difficult for me to know what was best for the individual patient in front of me. I decided to keep an open mind and research things further myself, to form my own opinion grounded in anatomy, physiology, biomechanics, pathology, and evidence-informed clinical reasoning.

Now, as a Chartered Physiotherapist with more than 21 years of clinical experience, I've practised in London teaching hospitals, at Saracens Rugby Union Football Club, with the Parachute Regiment and Royal Marines, and in private practice. Past teaching roles have included being a Visiting Lecturer and External Examiner to the MSc Manual Therapy and MSc Sports Physiotherapy degrees at University College London, being contracted to teach Exercise Rehabilitation Instructors and Physiotherapists for the Ministry of Defence, and teaching on sports medicine Master's and Doctoral degrees in the United States. Current roles include being a university Lecturer-Researcher and supervising PhD students. Other current roles include being a Knee Consultant Physiotherapist in private practice and serving as a Manuscript Reviewer for scientific and clinical journals including The Knee, Physical Therapy in Sport, and Musculoskeletal Science and Practice.

ResearchGate page: [click here to view past and ongoing research](#)

Course Date: Saturday 4th - Sunday 5th December 2021.

Course Location: Rehab 4 Performance. Unit 12b, Matchworks, Liverpool, L19 2RF, UK.

Course Enquiries: enquiries@integratedphysiotherapy.com

Course Investment

Early Bird (15% discount up to midnight 22nd October 2021): £253.27

Standard (after midnight 22nd October 2021): £297.97

Full-Time Student (20% discount with NUS card): £238.37

[Click here to enrol on this course](#) (see detail on Coronavirus [COVID-19] procedures).