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Certificates of attendance for CEU verification are provided after successful completion of the course.

This course is 15 contact hours/1.5 ceu's

This course is 18 contact hours/1.8 ceu's for therapists licensed in Illinois, New York, or the District of Columbia

APPROVED PROVIDER of CONTINUING EDUCATION by The American Occupational Therapy Association, Inc.

This course is applicable for PT, PTA, OT, AT. This course meets the continuing education requirements for physical therapists in the States of AK, AL, CO CT, DE, DC, ID, IN, MA, MO, MT, NH, NC, OR, RI, SC, UT, VT, VA, WA, WI and WY. IL PT provider #216000074. This course meets the Colorado Physical Therapy Board of Examiners criteria for 15 hours, 15 Category-1 PDA points. This course meets the standards set forth in section 1399.96 of the California Code of Regulation and is approved for 15.0 hrs, 1.50 CEU's for physical therapy continuing competency license renewal requirements in the State of California. This course meets the ceu requirements specified in the Utah Physical Therapy Practice Act Rule. The New York State Education Department, Office of the Professions has approved NAS as a continuing education sponsor for physical therapists and assistants licensed in New York. **This activity is provided by the Texas Board of Physical Therapy Examiners Accredited Provider # 1907038TX** and meets continuing competence requirements for physical therapist and physical therapists assistant licensure renewal in Texas for 15 ccu's. **North American Seminars, Inc. is an AOTA provider for continuing education, provider #4487**. AOTA approval hours are 15. The AOTA does not endorse specific course content, products or clinical procedures. The AK, AR, DE, DC, IL, IN, KY, LA, MD, MN, MS, MO, MT, OH, OR, OK, PA, RI, SC, TN, TX, VT and VA occupational therapy regulatory boards accept courses presented by AOTA providers to meet the needs of OT continuing educational requirements. Additionally, this course meets the ceu requirements for OT's licensed in AL, AZ, CA, CO, CT, FL, GA, HI, ID, KS, ME, MA, MI, NE, NJ, ND, UT, WA, WV, WI and WY. Meets the NBCOT requirements. **BOC provider # P2047**, 15 hrs, category A, call for evidence-based approval status. Meets the NBCOT requirements. **Call 800-300-5512 for specific state approval numbers as they are continually updated.**

The Runner's Rehab Program™

Presented by

Miriam Nelson, MPT, COMT, OCS

PT, OT, PTA and ATC - Continuing Education Course

North American Seminars, Inc.

1-800-300-5512

Fax 1-800-310-5920

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Day One

7:30	8:00	**Registration**
8:00	9:30	**Biomechanics of Walking and Running Gait (Lecture)** • Muscle activity and timing, differentiating walking and running • Foot and ankle anatomy • Normal and abnormal mechanics and effects on 1st ray function • Intrinsic and extrinsic factors for pronation and supination • Foot orthoses management options
9:30	10:15	**Assessment of the Foot and Ankle (Lab)** • Rear and forefoot alignment, rear foot excursion test, navicular drop test, hallux limitus testing (structural versus functional), lunge test
10:15	10:30	**Break**
10:30	11:30	**Ankle Taping (Lab)** • Arch taping for plantar fasciitis; midfoot slings, (pronatory and supinatory), Achilles tendinopathy
11:30	12:30	**Lunch (on your own)**
12:30	1:30	**Patellofemoral Pain (Lecture)** • Recent theories of pain generation -Tissue homeostatis and envelope of function -Intraarticular innervation • Best evidence related to treatment
1:30	2:30	**Patellofemoral Taping (Lab)** • Taping for patellofemoral pain and tibial rotation
2:30	3:30	**Core Stability**: **Review of Literature (Lecture)** • Evidence behind transverse abdominal activation and functional testing • Methods of training segmental trunk control
3:30	4:30	**Core Training (Lab)** • Stabilizer ™ assessment of transverse abdominals and gluteus maximus • Patient eduction for core training and biofeedback for independent home program
4:30	4:45	**Break**
4:15	6:00	**Functional Screening (Lecture and Lab)** • Single limb squat, overhead squat test, lateral step down test, in-line lunge test, quadruped extension-rotational stability test, star excursion balance test
6:00	6:15	**Summary and Questions**

Day Two

8:00	9:45	**Common Running Injuries Etiology and clinical Presentation (Lecture)** • Medial tibial stress syndrome • Plantar fasciitis/heel pain • Achilles tendinopathy
9:45	10:00	**Break**
10:00	11:00	**Exercise Progression in the "Posture of Running" (Lecture)** • Creating a criterion based algorithm for running injuries • Non-Weight-Bearing OKC/CKC: "The Missing Link: Segmental Stabilization " • Integrating Stabilizer™ cues • Foam roller • Weight-bearing CKC Static with perturbation and dynamic movement • Weight-bearing plyometric/reactive training; "bridging the gap to return of dynamic gait activities"
11:00	12:00	**Video Analysis of Running Gait (Lecture)** • Equipment and examples of software options for video analysis • Check list for assessment • Demonstration with video analysis with treadmill running (Lab)
12:00	1:00	**Lunch (on your own)**
1:00	2:00	**Gait Manipulation (Lecture/Lab)** • Gait re-training techniques for transverse and frontal plane dysfunctions • Techniques for changing trunk posture • Manipulation of cadence and treating patellofemoral syndrome • Demonstration of appropriate gait re-training techniques for video examples
2:00	3:15	**Barefoot Running and Minimalist Shoe Wear (Lecture)** • Ground reaction forces • Component of traditional and minimalist shoe wear • Effects on gait mechanics
3:15	3:30	**Summary and Questions**

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About the Educator

Miriam Nelson MPT, COMT, OCS, attended the University of North Carolina at Chapel Hill, graduating with a BS in Biology. She completed her Masters of Physical Therapy at East Carolina University. Miriam later completed a post-graduate internship at Mayo Clinic's biomechanics and motion analysis lab in Rochester MN. She has practiced orthopedic and sports physical therapy since 2000.

Miriam is owner and director of The Runner's Mechanic Physical Therapy Clinic. She specializes in the treatment of running injuries with a background in foot and ankle rehabilitation, foot orthoses fabrication, taping techniques, spine and lumbopelvic neuromuscular reeducation, spinal manipulation, and the biomechanical analysis of running gait. This includes video motion analysis and real-time gait retraining. Miriam also specializes in dry needling techniques, also known as Intramuscular Manual Therapy (IMT), to reduce pain and restore normalized function of the neuromuscular system appropriate for most patient populations. In 2015 Miriam had the distinct pleasure to study under Sue Falsone, head of Athletic and Sport Performance Training for the US Soccer's Men's National team, for specific training in systemic dry needling techniques and effective treatment of chronic tendon disorders in high level athletes and runners. In 2016 Miriam became the physical therapist for the Olympic Training Site under the Center for Excellence for Sports Science in Johnson City where she rehabilitated Olympic athletes in bobsled and track and field sports.

Miriam Nelson has her certification of orthopedic manual therapy (COMT) for spine and peripheral joint disorders through Maitland-Australian Physiotherapy and is an orthopedic certified specialist (OCS) through the American Physical Therapy Association. She has been a national presenter for North American Seminars which allows her to educate health professionals in the most recent techniques for treatment of running related injuries. She models her approach to runners' rehabilitation after the Speed Clinic & Center for Endurance Sports at UVA and Spaulding National Running Center at Harvard, which has allowed her to utilize the most effective techniques for real time gait retraining.

Miriam enjoys the outdoors in Asheville, including running the local trails and hiking.

Recommended Reference Tool

Examination and Treatment of the Hip Joint Online/DVD

- Narrated and demonstrated by Michael Reiman PT, DPT, OCS, SCS, ATC, FAAOMPT, CSCS
- Filmed in HD with professional DVD and online course (extra option available for CME at www.healthclick.com)
- An advanced educational program featuring examination and treatment techniques of the hip joint.
- Step by step discussion of twenty-six examination techniques of the hip joint.
- Thirty one treatment techniques, including fourteen mobilizations are detailed with expert narration.
- Develop an evidence based treatment program for specific dysfunctions of the hip by mastering these examination and treatment techniques.
- Utilize as a reference tool to master the manual techniques for the hip joint and improve functional outcomes
- A great tool for visual review of the techniques after the course
- More information at **www.healthclick.com**

Why You Should Attend This Course

Treatment of the runner is a complex and sometimes an involved process dealing with the interaction of physical and ideological components. This intermediate level course is founded on an evidence based approach for comprehensively evaluating and dynamically treating the running athlete. The focus of this two day seminar will be to identify the mechanisms responsible for inefficiency and injury during a client's first treatment session and develop evidence based treatment approaches. This course will provide a clear outline for performing functional screening techniques applicable to any clinical setting. Foot and ankle assessment will be presented, including evaluation of rear and forefoot alignment, internal and external drivers of foot posture, and passive and active mobility testing. Foot posture and function will also be correlated to shoe wear and orthoses prescription. A very unique perspective will be taught regarding the assessment of segmental core stability with running patients. Techniques will be demonstrated using manual cueing and Stabilizer ™ biofeedback to facilitate core stability for simple and concise patient education. A specific exercise algorithm and home program will be presented for correcting movement dysfunctions and smoothly transitioning stance phase stability into more dynamic gait patterns. A portion of this course is dedicated to manual treatment approaches that are effective for immediate improvements with function and management of symptoms, including both taping and mobilization/manipulation of the ankle, knee, and hip joint. Specific running pathologies will be addressed, including hip pain, patellofemoral pain, Achilles tendinopathy, plantar fasciitis, and medial tibial stress syndrome. The current literature will be reviewed regarding the trends of barefoot running and minimalist footwear. Video analysis will be presented to allow more dynamic evaluation of lower extremity function. Gait manipulation techniques will be taught including cadence training and verbal cueing. This course is essential for attaining the knowledge base and manual skills needed for the success in treating the running athlete and is designed with the role of the clinician in mind, with easily applicable tools for treatment for even the busiest rehabilitation settings. The information presented in this course is based in part on the newest research generated by the top gait analysis labs in the country. Miriam has modeled her approaches to gait dysfunction based on the concepts advocated by researchers from both the Center for Endurance Sport at UVA and the Spaulding National Running Center at Harvard University.

Course Objectives

Upon completion of this course, participants will be able to:

- Describe biomechanical differences between running and walking gait.
- Recognize the current literature to ascertain the functional definition of core stability.
- Demonstrate how to objectively assess core strength with running athletes, and train patients for improved self awareness for lumbopelvic stability.
- Perform thorough evidence based functional screening techniques to identify biomechanical faults of the injured runner. Techniques include lateral step down test, lunge test, functional movement screening, active hip abduction test, pelvic firing pattern assessment, swing test, and star excursion balance test.
- Perform taping techniques for plantar fasciitis, Achilles tendinopathy, knee pain and low back pain.
- Illustrate foot and ankle anatomy and biomechanical drivers of underpronation and overpronation.
- Perform foot and ankle screening techniques including navicular drop tests, rearfoot excursion test, active heel raise test, functional hallux limitus test and Jack's test.
- Discuss the concepts of barefoot, minimalist, and traditional shoe wear running and how these trends impact lower extremity kinematics, ground reaction forces, and running posture.
- Develop an evidence based algorithm for exercise prescription specific to running biomechanics, frontal and transverse plane kinematics, and lower extremity pain syndromes.
- Perform mobilization/manipulation techniques to restore joint motion and decrease pain with running specific pathologies for the ankle, knee and hip. Techniques include talocrural joint, proximal tibiofibular joint, and hip joint mobilization/manipulation.
- Discuss the etiology and differential diagnosis of the most common running injuries including medial tibial stress syndrome, heel and plantar fascia pain, hip pain, and Achilles tendinopathy.
- Perform real time facilitation techniques to modify running form to decrease mechanical forces responsible for injury.
- Describe the basic concepts of video analysis of running gait and be able to apply gait analysis to the clinical setting.
- Perform differential diagnosis of hip pain and screen tests for labral tears, femoroacetabular impingement (FAI) and osteoarthritis.
- Discuss newer concepts in pain generators for patellofemoral pain syndrome.

Registration Form

Nelson 17

The Runners Rehab Program

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All cancellations must be submitted with written notice and received 14 days prior to the course date. Refunds and transfers minus the deposit fee of $75.00 are provided until 14 business days prior to the course date. No refunds will be issued if notice is received after 14 days prior to the course date. North American Seminars, Inc. reserves the right to cancel any course and will not be responsible for any charges incurred by the registrant due to cancellation. A full course tuition refund will be issued if NAS cancels the course. NAS reserves the right to change a course date, location or instructor. No refund will be issued if course is in progress and is interrupted by an Act of War or God or issue beyond our control. NAS, Inc. will not be responsible for any participant expenses other than a course tuition refund for course cancellations.