

Runner's Injury Prevention Program



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Comprehensive Running Analysis Report

Health-Fit Chiropractic & Sports Medicine

Kevin M. Christie D.C. CSCS



Reduce running related injuries



Maximize your performance

Running Injury Prevention Program Report Summary (Phase 1)

Developing Individualized Biomechanical Analysis for Runners of All Levels

Dear Janet,

It was a pleasure working with you last week in our Sports Rehab and Performance Center. Below you will find the results of our analysis along with some recommendations to help reduce the risk of injury and enhance your performance. Your primary goal was to run pain free and to prevent reoccurrence of stress fractures in your right foot. These are great goals to promote your success as a runner! You reported some pain currently in your right foot at the 3rd metatarsal. We hope the following assessment aids you in your journey.

Postural Assessment

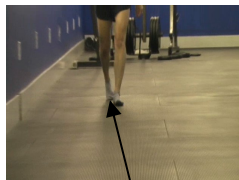
- Lumbar spine has an increased arch
- Feet are supinated (high arch)
- Pelvic and shoulder height are normal
- Thoracic spine curvature is normal

Physical Screening

- Instability on the right leg during 1-leg squat.
- Tight hip flexors on the right
- Weak glute stability on the right hip
- Glutes do not activate on hip extension, Hamstrings and low back are overactive.
- Weight shift onto the left side during the wall squat which indicates right hip instability.
- Core has a minor loss of stability during leg movement.

Running/Walking Assessment

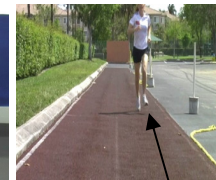
- Left arm doesn't swing during walking
- Feet are supinated during walking and running. The foot doesn't flatten normally therefore does not absorb shock well.
- Lack of Big toe extension on right. Right foot rolls onto outside of toes at push-off
- Pelvic drop on the left, indicating right hip instability
- Toe out on left during leg swing
- Poor knee extension on left before impact. Could be due to tight right hip flexor.



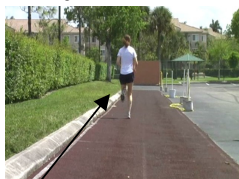
Pushing off outside of foot



Supinated (high arch) foot



Toeing out during recovery



Left hip drop during weight bearing



Limited left knee extension

The Above information is intended for a healthy and injury free runner. This assessment is not a medical evaluation and is not intended to render a diagnosis or course of treatment. If you currently have an injury or pain syndrome please contact a physician in regards to such. Please do not hesitate to contact us at (561) 859-3109 or email at Drkchristie@gmail.com if you have any questions or in regards to a free consultation to discuss and/or evaluate any current pain or injuries.



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Exercise & Stretching Recommendations (Phase 1)

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Recommendations

1. Evaluation for orthotics to address Supinated feet (High Arches) and right push-off of 3rd/4th metatarsals.
2. Perform single-leg balance exercises to increase hip stability on the right.
3. Strengthen the Glute Max and Glute Medius muscles to increase hip stabilization during running and hip extension. (see glute bridges, side leg lifts, duck walks, star lunges, wall squats)
4. Hip Flexors should be stretched to allow for full hip extension and full knee extension on the left.
5. Perform the Ankle pronations mobility drill to restore that movement.



Glute Bridge



Side Leg Lifts



Single Leg Squat



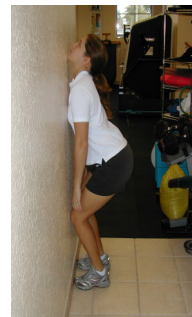
Hip Flexor Stretch



Star Lunges



Duck Walks



Wall Squats



Ankle Pronations

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Physical Screening Results

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Squat Test- The squat test revealed lack of mobility in your upper body (not a concern for running) and your weight was placed on the left side more than the right side of your body. You demonstrated good balance and your low back was able to relax to get down into the full deep squat position.

Wall Squat Test- You were able to perform the squat but you shifted most of your weight onto the left side. Whenever somebody shifts their weight during one side, it is indicative of weakness of the other side

1-Leg Balance- You demonstrated good balance on both legs.

1-Leg Squat Test- Your right knee migrated inward and showed some instability during this test indicating lack of stability in the hip and/or foot dysfunction.

Glute Bridge Test- Your right gluteus maximus demonstrated inadequate strength and activation on the Glute Bridge test. Both glutes were effective during the test, but not 100%. On the glute activation test, both hamstrings and low back were overactive in the production of the movement.

Side Leg Lift Test- Your right leg demonstrated overactive TFL muscle and inhibition of the right gluteus medius.

Thomas Test- You demonstrated tightness in the right hip flexors. The quadriceps and IT Bands were of normal length.

Half-Kneeling Test- You had full ankle dorsiflexion on both sides. Dorsiflexion is the ankle movement upward, bringing your foot to your shin. This movement is vital in proper running mechanics.

Hamstring Test Series- You had a normal toe touch test.

Overview: Since the hamstrings tested normal in length, but overactive in the hip extension test, it is the inactivation of the glutes to start extension that is the main problem. We had multiple tests showing weakness or inactivation of the glute max and glute medius on the right. The tight hip flexor on the right can also be contributing to your right hip imbalance.

Foot/Ankle/Knee Screening

- Both feet are supinated (high arch)
- Ankle dorsiflexion is normal
- Big Toe extension is significantly limited on right and moderately on left.
- Ankle stability is normal
- The VMO portion of the knees activate normally and aid in proper patellar tracking.

Runner's Goals

- Increase efficiency of running
- Prevent reoccurrence of stress fractures
- Run Marathons again
- Top finisher in age group

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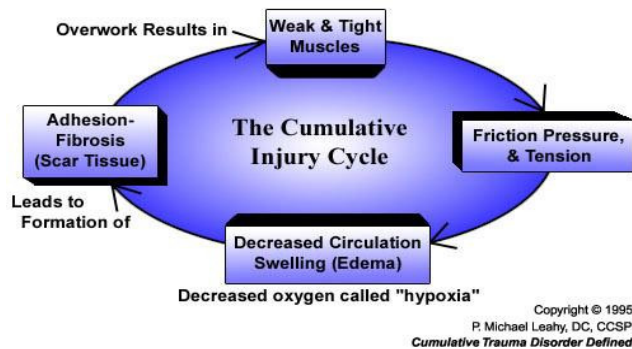


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Running Injury Prevention Program Treatment Considerations

Developing Individualized Biomechanical Analysis for Runners of All Levels

The above Running Injury Prevention Program is Phase 1 of a total of 3 Phases that most of our runners adhere to when seeing us for Injury Prevention, Treatment, and/or Performance Care. Phase 1 will give you the knowledge of your potential risks and some basic recommendations for prevention. Phase 2 includes our Treatment protocols along with Phase 1. As many of our runners can attest to, our Treatment is a key component of their Performance as a runner as well and many seek treatment while in a pain free state. Phase 3 consists of the above and includes advanced exercises to optimize the runner's performance. Phase 3 follows a period of treatment and basic injury prevention exercises and/or rehab and is more of a maintenance care program and therefore visits are far less frequent. Runners seeking our care for an injury start in our Treatment phase and once feeling better are evaluated for Injury Prevention. Reason being, an injured runner will have faulty video results and physical screening due to compensation for the injured structure. Below is a breakdown of our treatment methods and how running over-use injuries occur.



Weak & Tight Muscles

Repetitive effort makes the muscles tighten. When a muscle is tight it tends to be weak. When a muscle is weak it tends to be tight. The adjacent soft tissues may also be drawn tight. A sedentary life-style can also perpetuate this muscle imbalance.

Friction- Pressure -Tension

As a result of weak and tight tissues, the internal forces acting on the tissues rise. Friction, pressure, or tension can be present, or all at the same time. If one or more of these factors is high enough, an acute injury and inflammation can result even without outside forces being applied.

Decreased Circulation-Swelling

The affect of increased forces on the tissues is to decrease circulation. If pressure is applied over one of the low-pressure lymphatic channels the result is swelling. Outside forces in the form of constant pressure may also have the affect of decreasing circulation or causing swelling.

Active Release Technique® (A.R.T)

As the name implies, ART uses motion to fix the problem. Once the injury has been assessed, the provider uses hands on treatment and patient motion to "free up" the problem areas. ART corrects muscular and soft-tissue problems that are caused by the formation of adhesive tissues that are laid down due to overuse or cumulative trauma.

Graston Technique®

Graston Technique breaks down and releases scar-tissue. This technique utilizes patented stainless steel instruments, uniquely shaped to treat different areas of the body. The weight and design of the various instruments allow clinicians to effectively treat deep tissue dysfunctions. A key benefit to patients is they are able to engage in everyday activity during treatment

Functional Rehabilitation

Our corrective exercise prescription is based on the patient's biomechanical and functional testing results and is designed to mimic the requirements in the patients sport, job and activities of daily living.



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Testimonials

Developing Individualized Biomechanical Analysis for Runners of All Levels

"Health-Fit Chiropractic & Sports Medicine has been a leading resource for Team In Training athletes for several years now and has graciously offered their expertise in the form of injury prevention workshops along with professional and affective rehabilitative services. Thanks to their generosity, they have helped over 100 marathon athletes cross the finish line".

Samantha Hampton- Team in Training

"I am extremely impressed with the Runner's Injury Prevention Program from the Health-Fit Chiropractic & Sports Medicine. The Comprehensive Running Analysis Report focuses on posture, running technique, injury prevention and follows many of the principles of ChiRunning. The two programs create a powerful connection that just could result in the Ultimate Injury Free Runner. "

Dr. Alan Miller, Ed.D.- Chi Running Coach

"Dr. Christie's evaluation and treatment protocols facilitated my recovery from multiple over-use injuries and helped me complete my first IronMan"

Dione Swanson- IronMan

"Dr. Christie is an integral part of our injury prevention workshops. He is able to relate to all athletes, from beginners to seasoned athletes. His treatments help develop flexibility, increased core strength and recovery time."

Isabel Rolden- Team in Training
Marathon & Triathlon coach