

Natural Running

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With the recent attention that “Natural Running” has received lately, much consideration has been given to the biomechanics of efficient movement.

Evidence in the scientific community has borne out some compelling evidence that heel strikers (runners who lead with their heels) set themselves up for a great deal of stress to the joints from what is coined the “impact transient effect”. In essence, what this term relates to is the amount of impact shock that is created upon impacting the heel with each foot contact with the ground.

Daniel E. Lieberman, professor of human evolutionary biology at Harvard University, released research early this year (2010) where they compared the impact of heel striking in typical running shoes and mid-to-forefoot contact running barefoot. This study revealed that heel striking generates from 1.5 to 3 times a runners total body weight through the heel and up the kinetic chain upon impact.

On the “heels” of this research we’ve taken a hard look at methods of mitigating these gravitational forces for runners. What is obvious to us is that regardless of where initial contact is made, be it forefoot, midfoot or heel, it is important to soften the landing and minimize the potential impact forces through the kinetic chain.

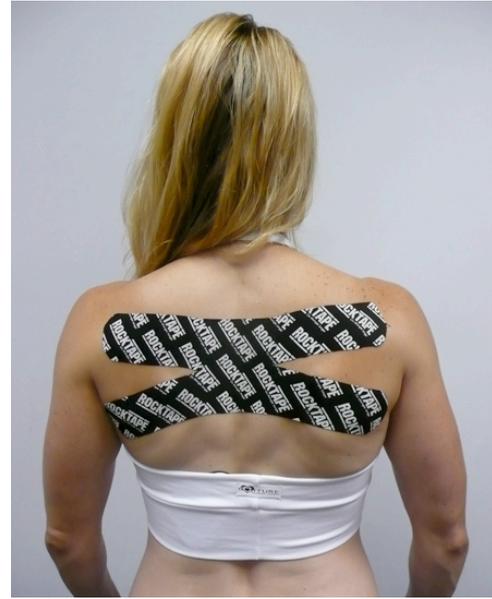
As we work to soften our landing, we also hope to return energy into our stride and avoid losing the proprioceptive response created through elastic recoil generated from the muscles responsible for deceleration.

The short story here relates to the importance of engagement of our core musculature which serves to stiffen our spine. If our posture is out of alignment while running, we risk shear forces that can potentiate injuries to our lower back, generally to the L4, L5 region of the lumbar spine. Over the past decade, “core” training has become the buzz word in most training circles. Teaching people to find neutral spine while weight lifting and a host of other athletic endeavors is common among athletic trainers. We’ve found that verbal cueing while under the close scrutiny of a trained eye is helpful, but it is generally not effective enough to create a chronic adaptation to improve a functional posture.

We have employed what we like to refer to as “passive engagement techniques” using Rocktape to encourage Kinesthetic awareness. By positioning our client into a functional posture, we simply tape the area we hope to train in such a way that it is not overly restrictive but allows a constant awareness. The tape should only seem taunt if the client begins falling out of the desired postural alignment. Aside from the teaching effect the tape provides, a host of other benefits are gained, such as the reduction potential of inflammation and muscular facilitation, which too are clearly beneficial.

Postural taping technique of the thoracic region: We employ this technique for a host of our clients who develop muscular imbalances between the pectoral and antagonist muscles of the upper back.

Technique: Have the client stand comfortably. Instruct them to draw the scapula towards the spine and gently release the contracting muscles until the spine and shoulders are neutral. Instruct them to hold this posture while applying the Rocktape. We prefer the Big Daddy Tape for this application. Begin by measuring the client from shoulder to shoulder across the upper back. Because of the elasticity of the tape be careful not to cut too long. We recommend measuring and subtracting about 4-6 inches depending on how much stretch you apply to the treatment. Fold the tape in half lengthwise and then again widthwise to create a crease that will guide your cut. Round the edges of the tape to avoid fraying. Cut the tape lengthwise down the center crease of each end, leaving about 4-6 inches intact at the center. Tear the paper backing of the tape down the vertical center crease and peel the tape back to the beginning of the horizontal cuts.



Apply the tape to the center of the spine while the client holds the desired posture. Remove the backing from one side at a time and apply the lateral tails of the tape by anchoring at the posterior deltoid and again about 6-8 inches lower in alignment with mid triceps. Repeat at the other shoulder. After the tape has been well seated ask your client to relax. Your client should have an awareness that the tape is being stretched. The response to this tightening will be to again rest into the desired posture, thus creating the kinesthetic signal to correct and hold the desired functional posture.

Treatment time: We advise our clients to wear the treatment for a few days unless they experience any irritation from the tape. We recommend application prior to participation in sport. Realize that this treatment is essentially training, which may require several applications over time. We also encourage our clients to implement exercises that help to promote the postural corrections as needed.



Postural taping technique for the lumbar region: We employ this technique for clients who present with hyper-lordosis, chronic low back pain or display instability at the hip while running.

Technique: Have the client stand comfortably. Instruct them to rock their pelvis forward and back a few times to assist in identifying a neutral spine. Have the client brace themselves against a wall during the application while maintaining the neutral posture. Instruct them to hold this posture while applying the Rocktape. We prefer the Big Daddy Tape for this application. Begin by measuring the client's hip width. Because of the elasticity of the tape, be careful not to cut too long. We recommend measuring and subtracting about 4-6 inches

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In Summary: Our experience with these techniques has shown that our clients begin to develop a neural cognition which elicits a stable foundation for dynamic athletic movement.

Because the tape does not restrict motion it is far more comfortable to wear while competing or training. We recommend these techniques to anyone who struggles with core instability or low back pain.

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