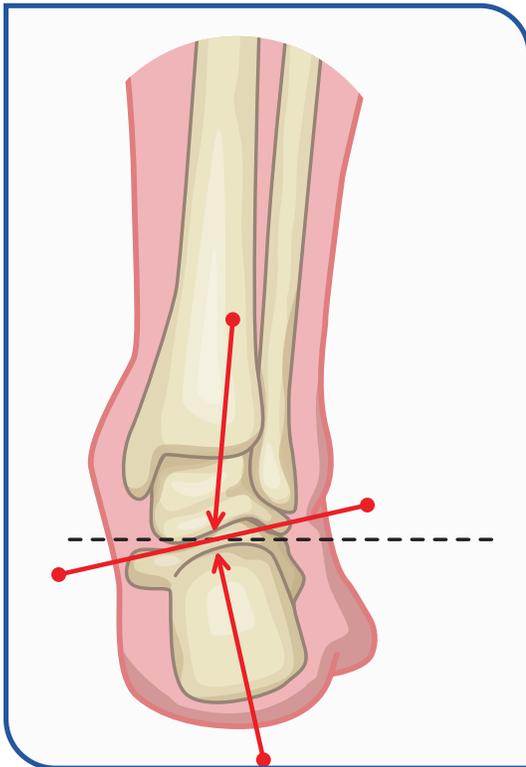




OrthopedicNotes

The often-overlooked source of pain: Overpronation

When patients don't respond as well as expected to their chiropractic adjustments, frequently there is a source of interference in the pedal foundation – overpronation.



One study concluded that “there are small, but important, inter-segmental movements of the spine during gait.”¹

Investigators have found that alteration of normal foot mechanics “can adversely influence the normal functions of the ankle, knee, hip, and even the back.”²

Overpronation interferes directly with normal spinal function in the following ways:

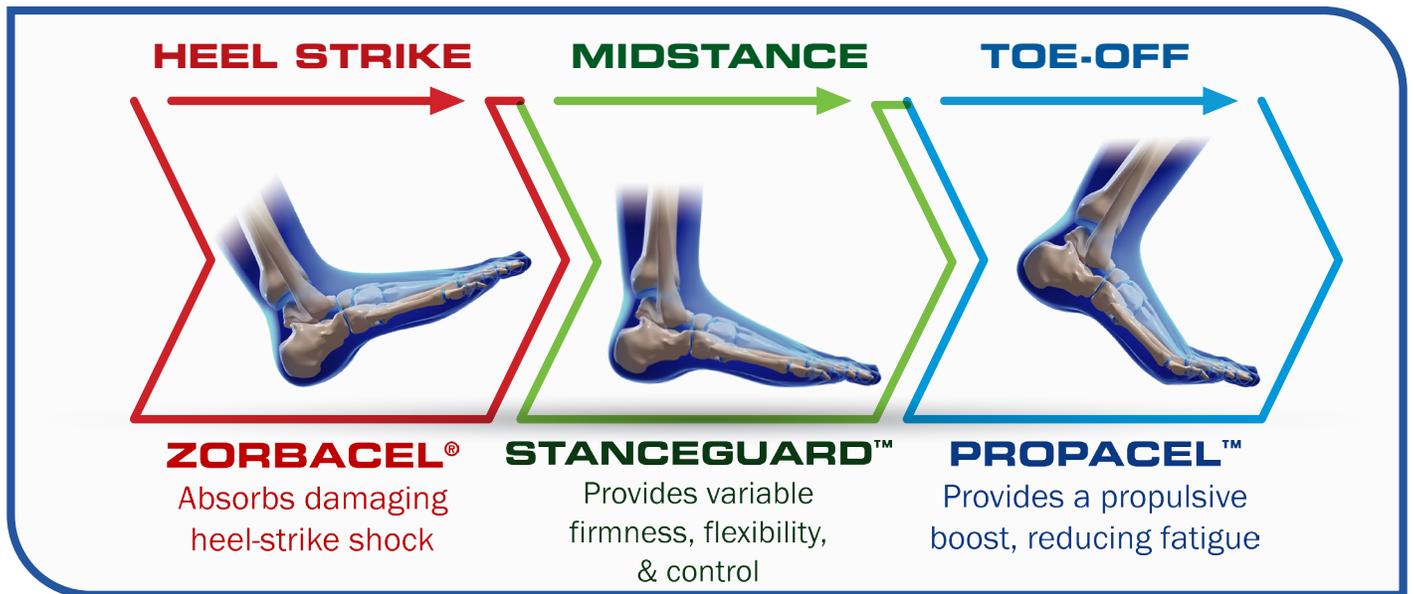
1. Abnormal rotational stresses on the spine
2. Chronic sacroiliac joint dysfunction
3. Excessive shock transmission
4. Pelvic unleveling due to leg length discrepancy.

Overpronation can be identified by lateral deviation of the Achilles tendon during weight-bearing, and the collapse of the longitudinal and transverse arches. The fastest and easiest way to identify overpronation and arch collapse is through a 3D scan of the feet.

TREATING OVERPRONATION

1. Manipulation of involved biomechanical subluxations
2. Exercises to strengthen ankle, knee, and hip
3. Custom orthotics





HOW CUSTOM ORTHOTICS ADDRESS OVERPRONATION

- **Symmetry:** The use of custom orthotics will improve gait symmetry and relieve negative spinal effects.
- **Force:** Decreasing the extent and speed of pronation reduces the medial rotation force that is transmitted up the leg into the pelvis and spine.
- **Alignment:** Improved alignment of the arches permits smoother movement of the sacroiliac joints during gait.
- **Shock absorption:** Shock absorbing materials ease the impact at heel strike and reduce the abnormal degenerated joints.
- **Pelvic stabilization:** Reducing calcaneal eversion and supporting the medial arch limits the dropping of the pelvis during gait

Foot Levelers custom orthotics
 clinically proven to reduce low back pain by 34.5%^{3!}

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References

1. Sychewska M, Oberg T, Karlsson D. Segmental movements of the spine during treadmill walking with normal speed. Clin Biomech 1999; 14:384-388.
2. Katoh Y, et al. Biomechanical analysis of foot function during gait and clinical applications. Clin Orthop Rel Res 1983; 177:23-33.
3. Cambron, J. A., Dexheimer, J. M., Duarte, M., & Freels, S 2017, Shoe Orthotics for the Treatment of Chronic Low Back Pain: A Randomized Controlled Trial. The Archives of Physical Medicine and Rehabilitation