



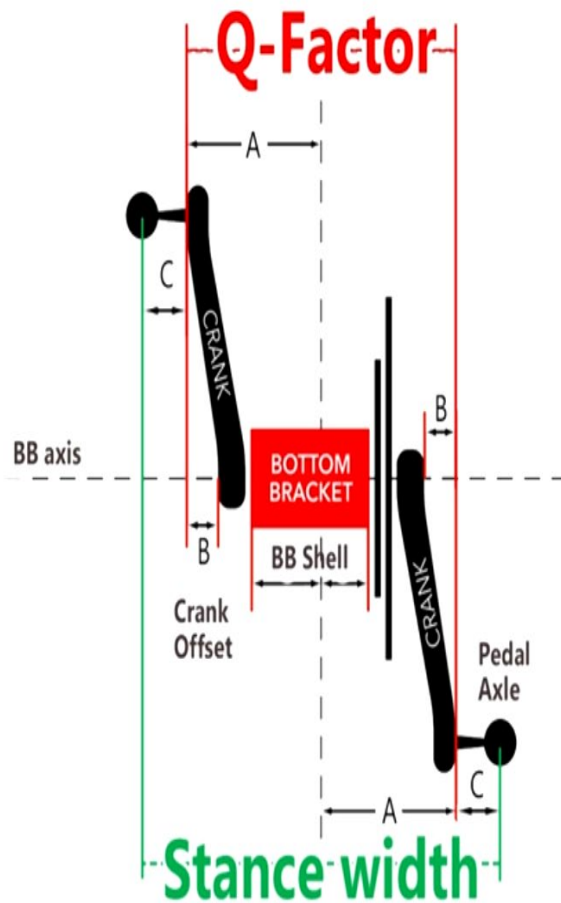
TÜRKİYE
TRIATLON 
FEDERASYONU

Bisiklet Sporunda Q Faktör ve Önemi

Sağlık Bilimleri Enstitüsü /
Spor Sağlık Anabilim Dalı

Hakan Arslan

Q Faktor Nedir ?



$A+A = Q \text{ factor}$
 $A+A-(B+B) = U \text{ factor}$
 $A+A+C+C = \text{Stance width}$



Grant Petersen - Bridgestone Bicycles (USA)
"Quack Factor"

Even Kids know Q-factor is important!

Small Q-factor

Easier to pedal, less splay.



Mid Q-factor

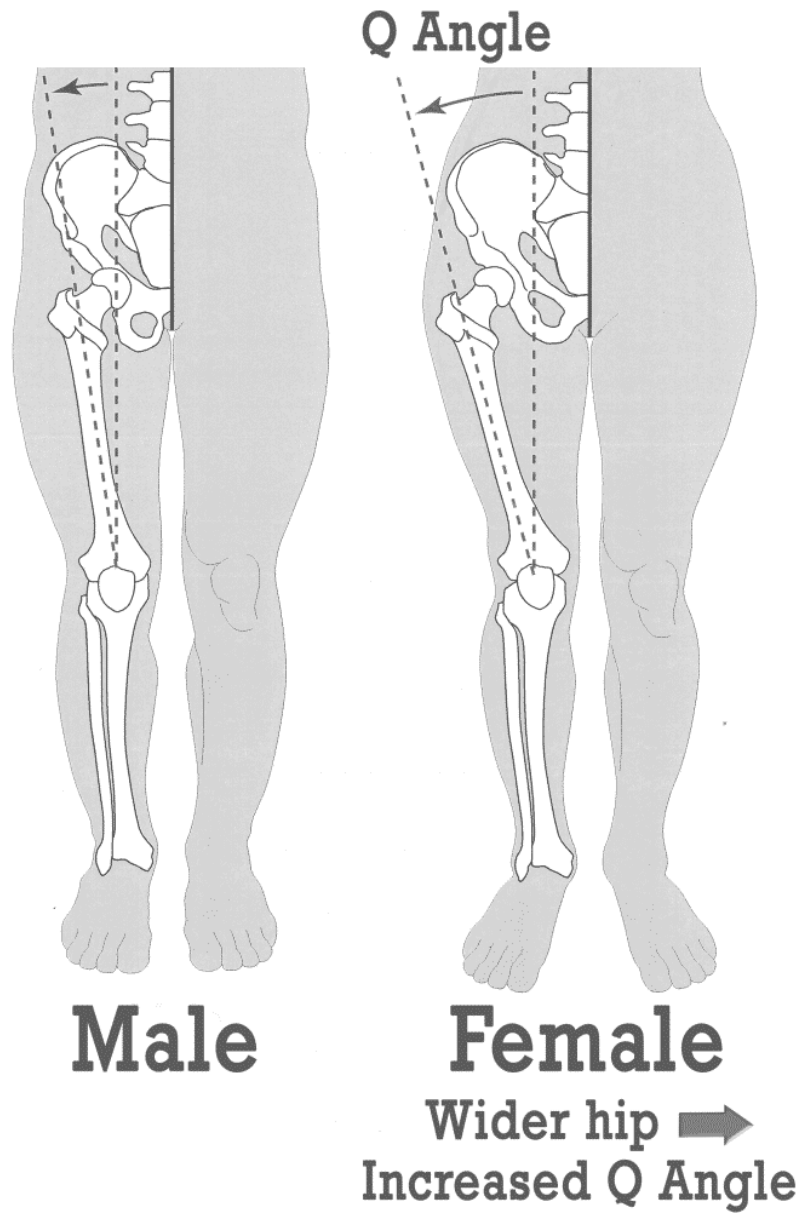
Most common, limits efficiency.



Large Q-factor

Hard to pedal, lots of splay.



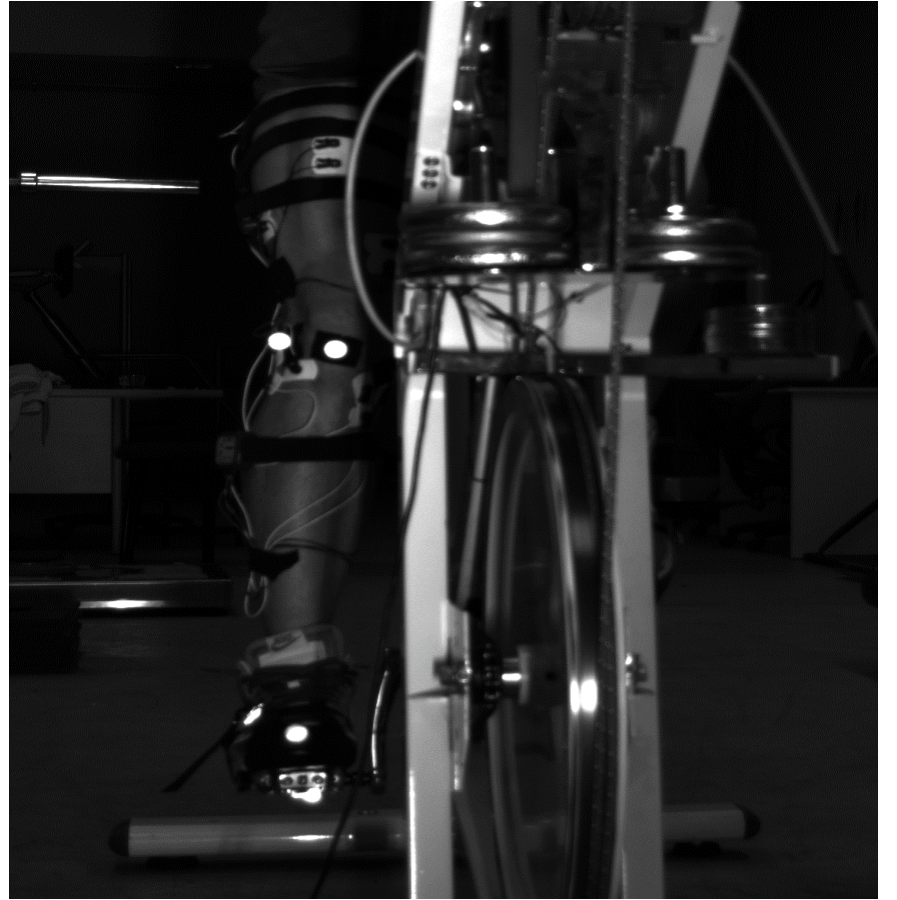


Mevcut Problem



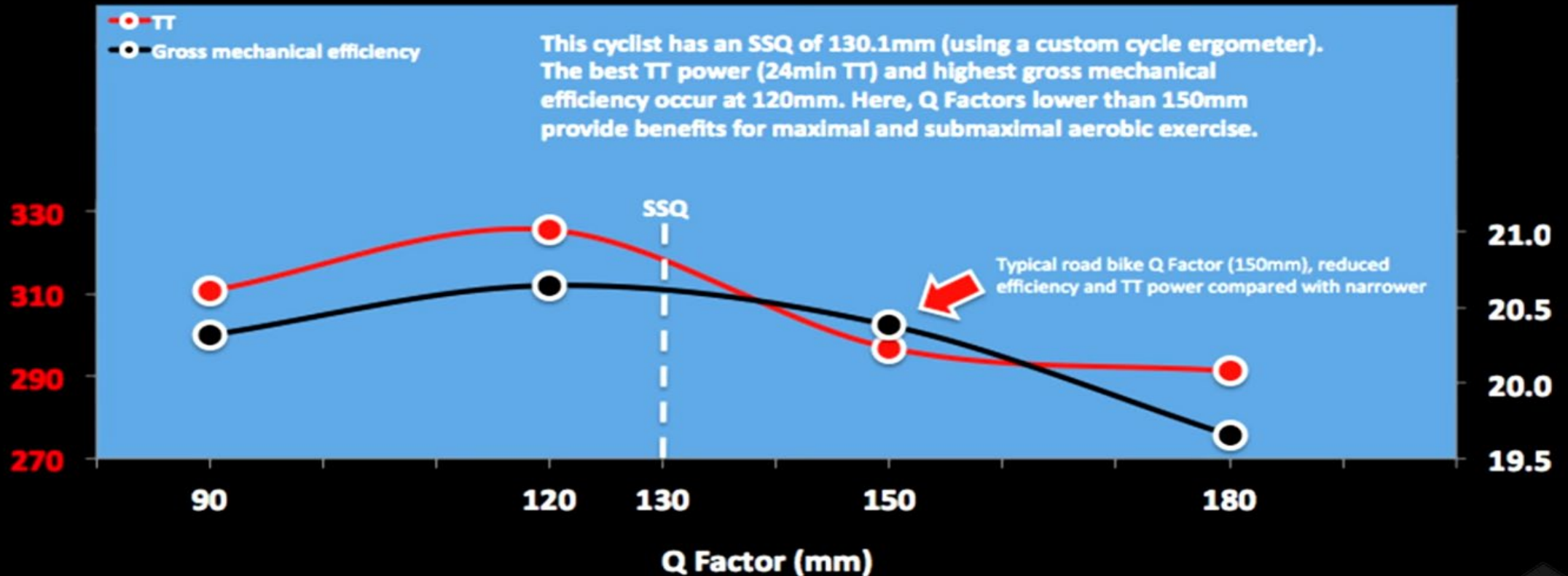




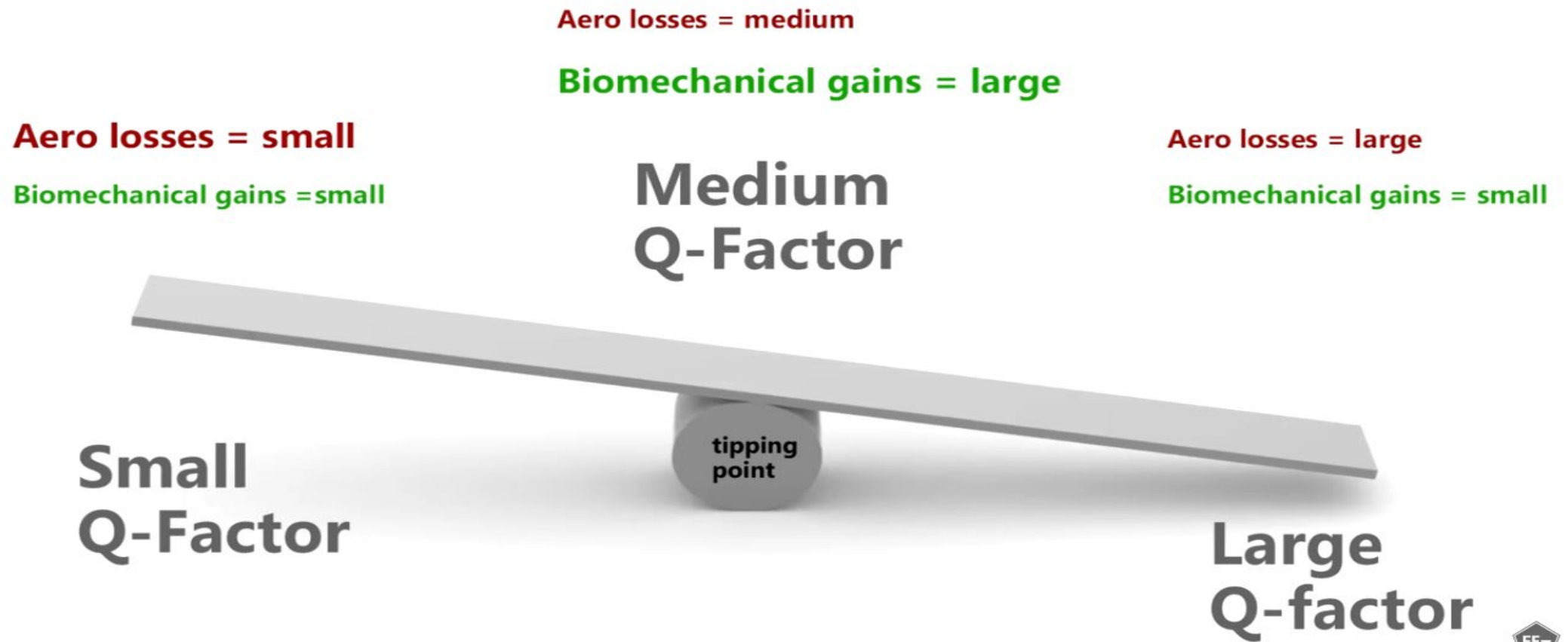


Q – Faktörle ilgili bazı literatür bulguları;

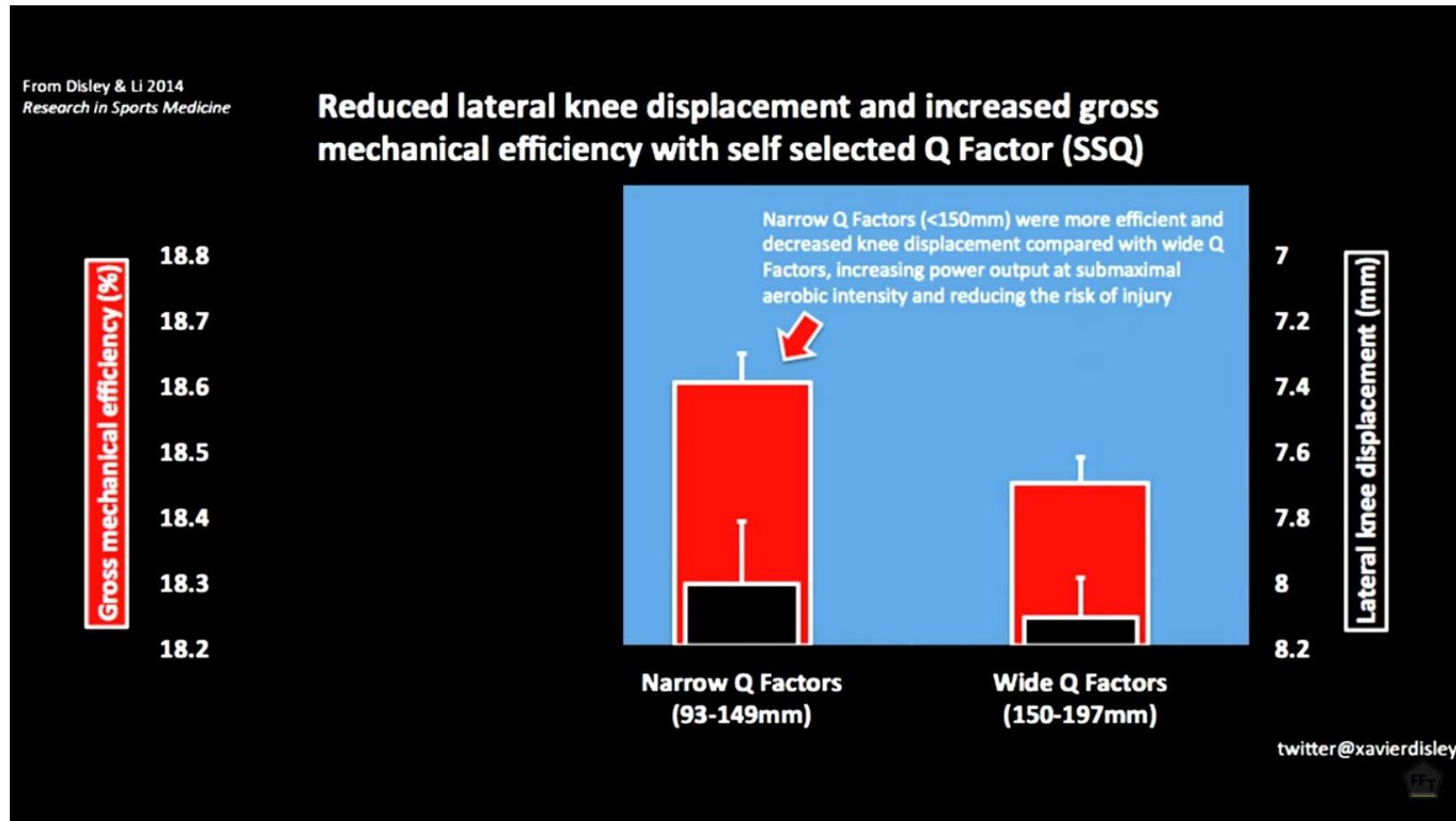
Self selected Q Factor (SSQ), TT power output and gross mechanical efficiency



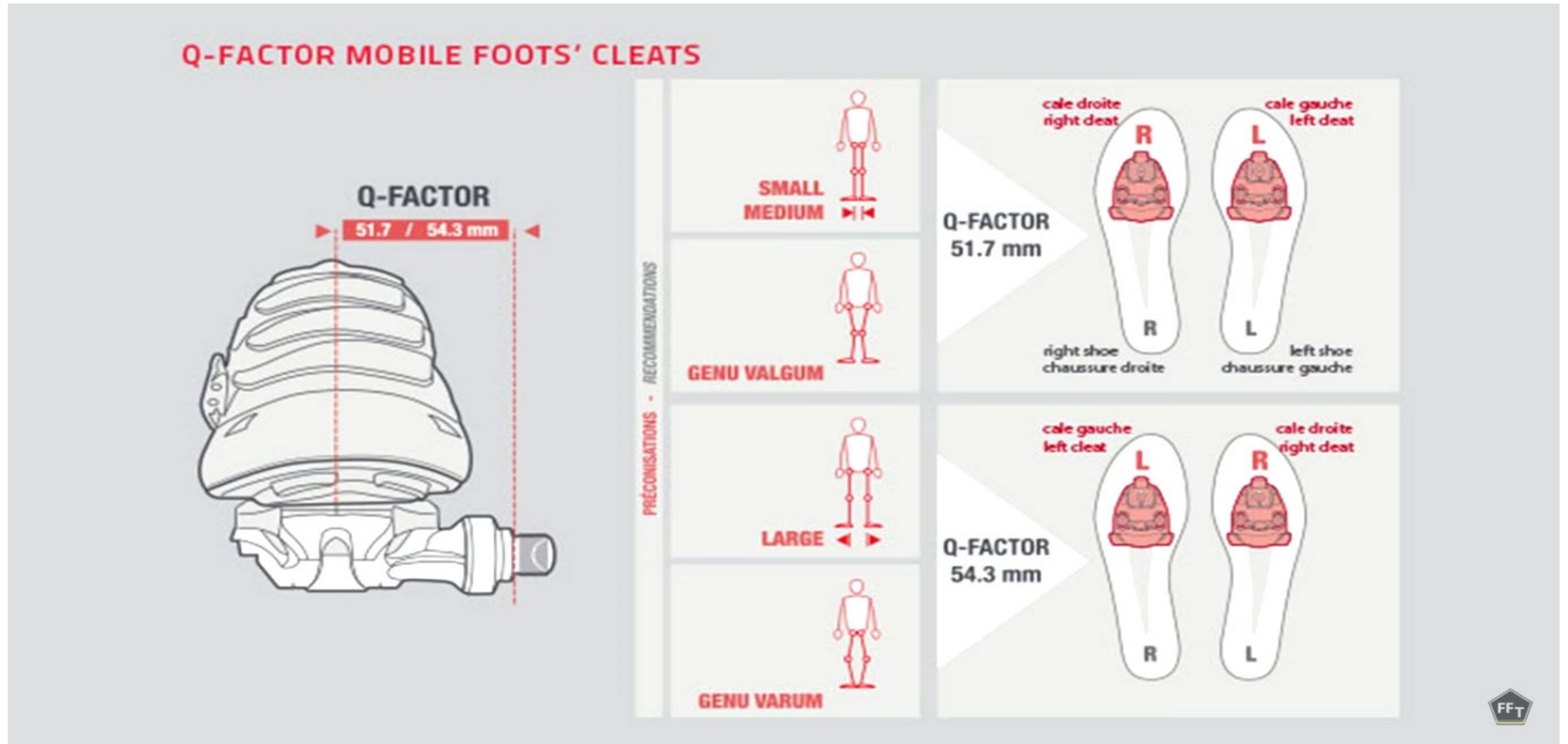
Avantaj – Dezavantaj



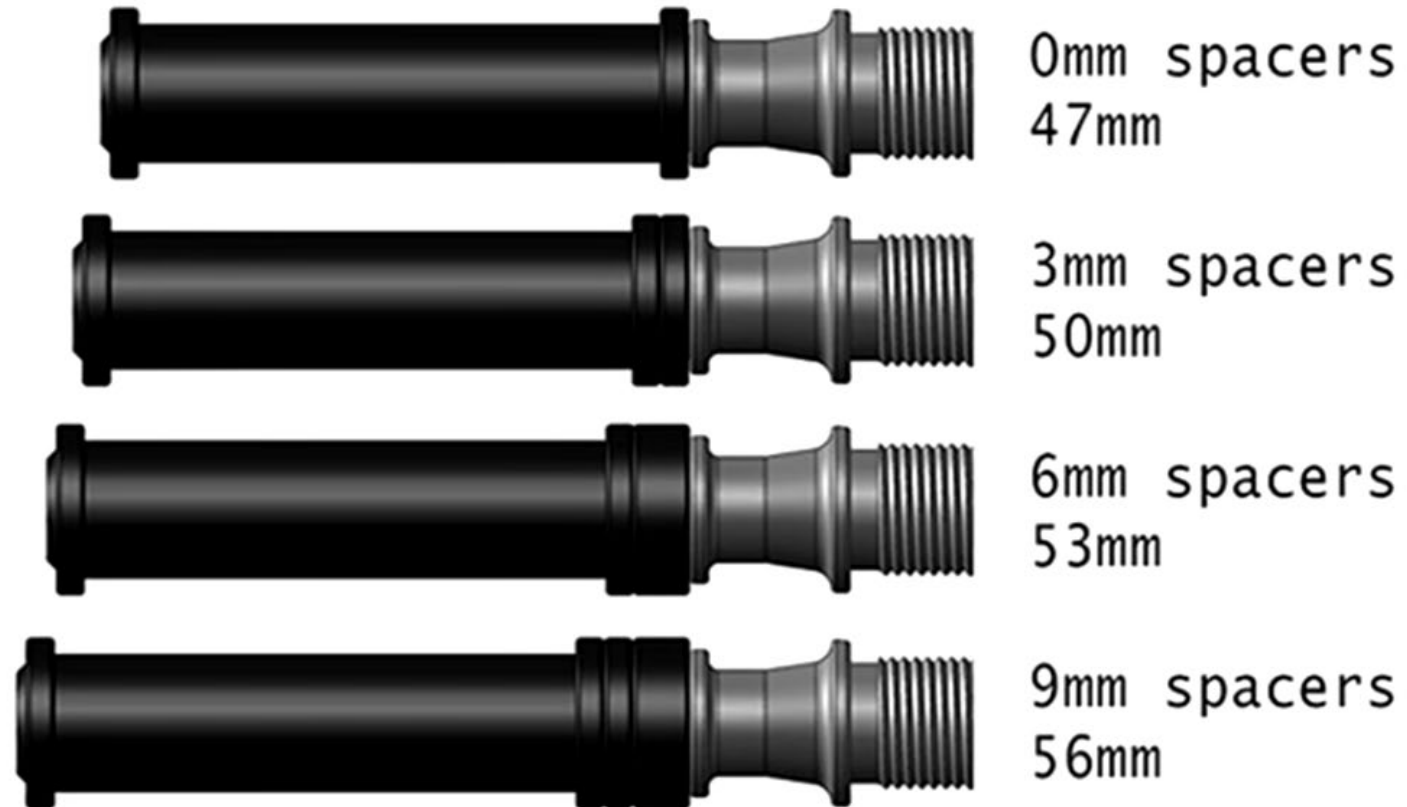
Q – Faktörle ilgili bazı literatür bulguları;



Q- Faktör İçin Yapılan Bazı Uygulamalar



Mercury Pedals: variable Q-factor



Q- Faktör İçin Yapılan Bazı Uygulamalar

Secure | https://www.google.co.uk/search?q=thrust+pedal+adjustable+q+factor&num=100&rlz=1C1CAF8_enG8645G8645&tbm=isch&source=iu&ictx=1&fir=ttnsoW8oolyU7M%253A%252ChWVxYvtb4PDurM%252C_&usq=__R_

+6mm per side

SOC18 Roundup: Xpedo's adjustable q-Factor road pe...
Bikerumor
Instead, it was a new take on Q-Factor from Xpedo. Called the Thrust Aero, the pedal offers adjustable q factor which could either be used for fitting or ...

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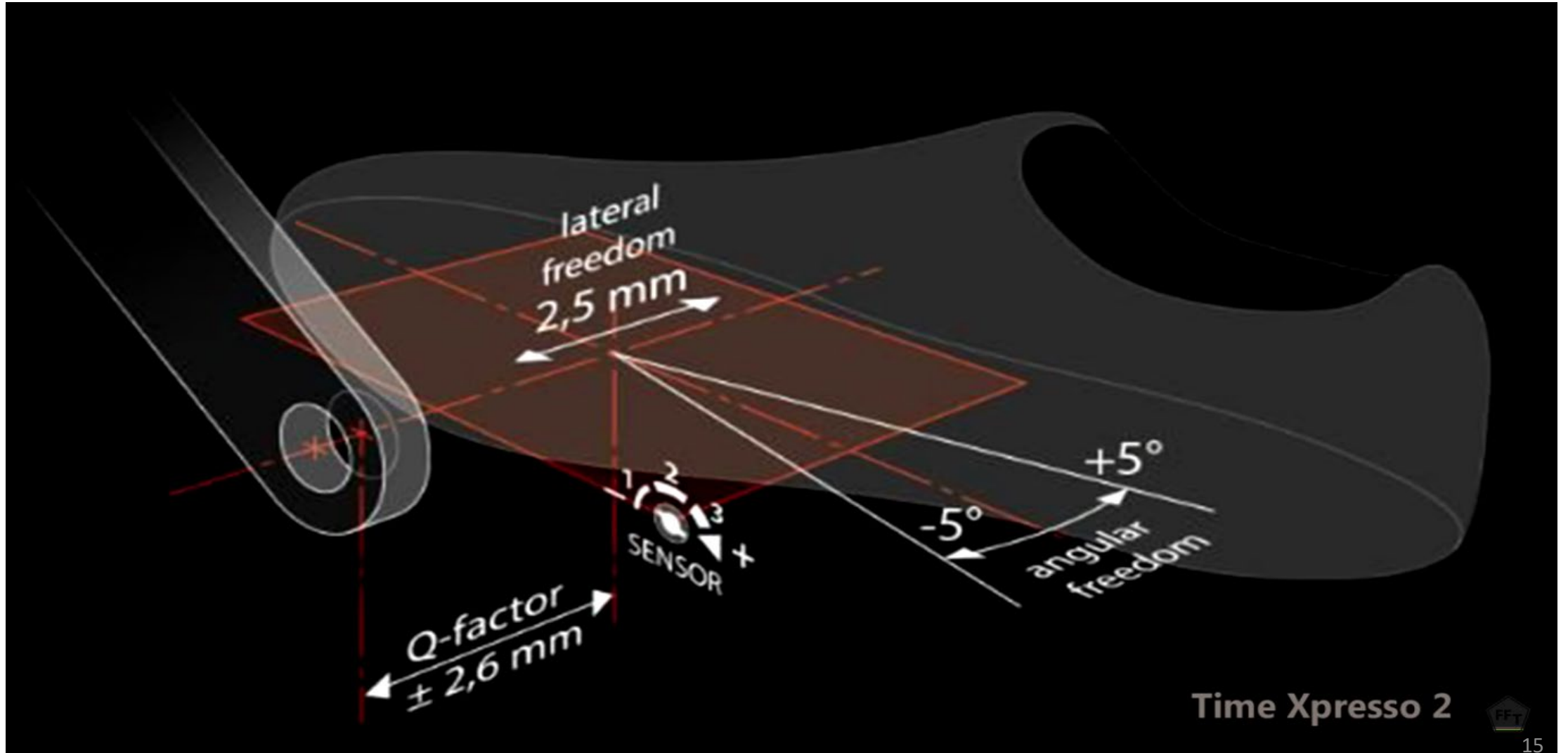
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wp2.jpg

Show all 4

Q- Faktör İçin Yapılan Bazı Uygulamalar



CLEAT POSITION AND KNEE PAIN



LATERAL PAIN 1

- ▶ Cleat too near outside of shoe
- ▶ Decreased Q angle & lateral knee pain
- ▶ **SOLUTION** Move cleat inwards



MEDIAL PAIN 1

- ▶ Cleat too near inside of shoe
- ▶ Increased Q angle & medial knee pain
- ▶ **SOLUTION** Move cleat outwards



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Original article

Increased Q-Factor increases frontal-plane knee joint loading in stationary cycling

Tanner Thorsen, Kelley Strohacker, Joshua T. Weinhandl, Songning Zhang *

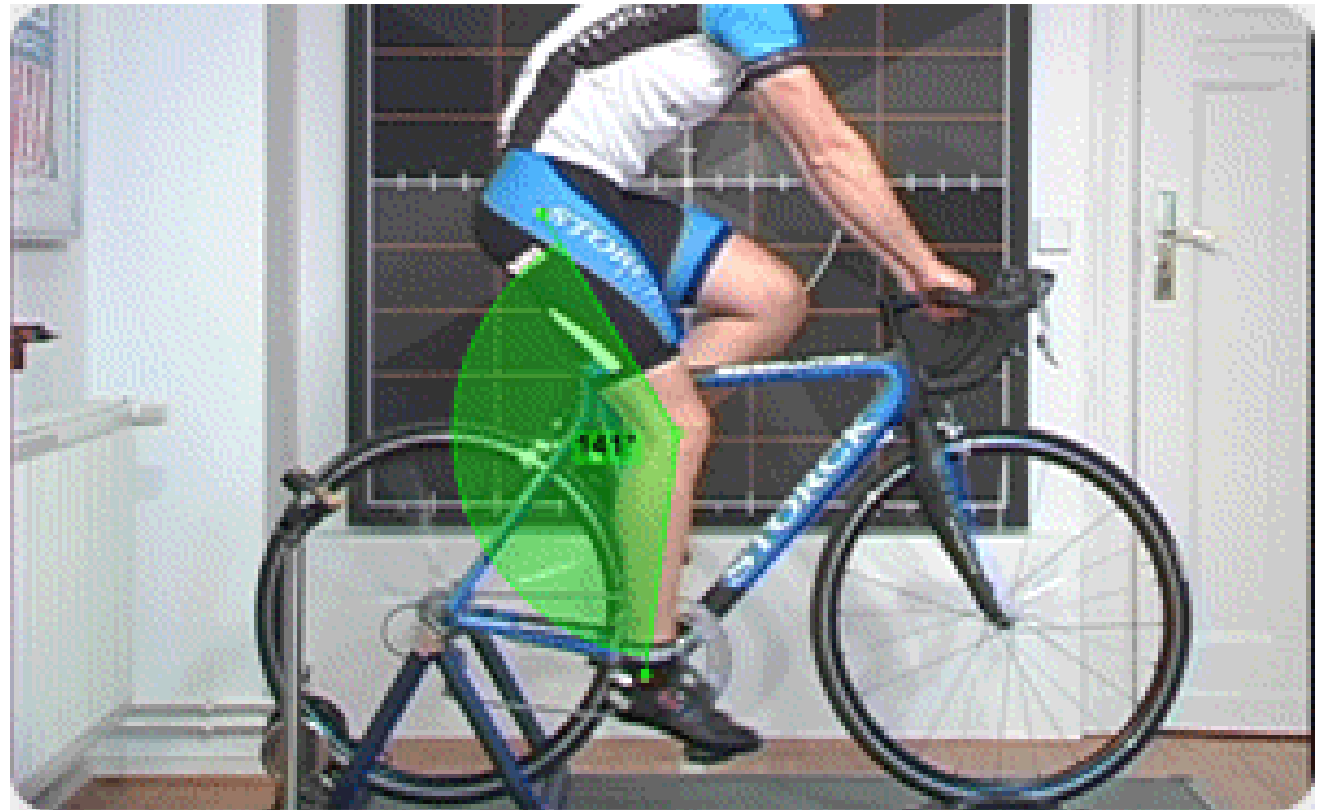
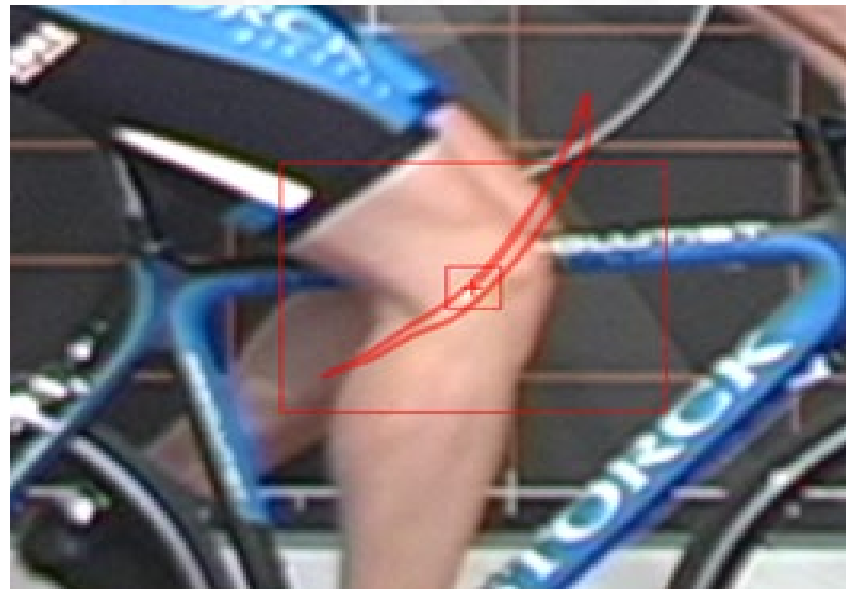
Department of Kinesiology, Recreation and Sport Studies, The University of Tennessee, Knoxville, TN 37996, USA

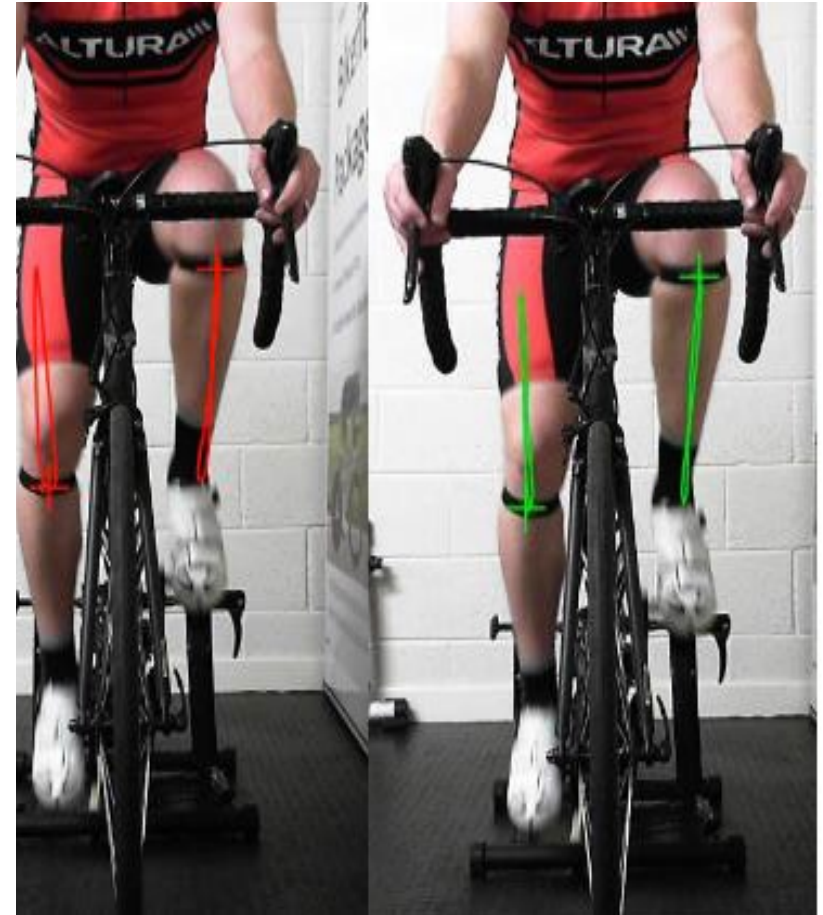
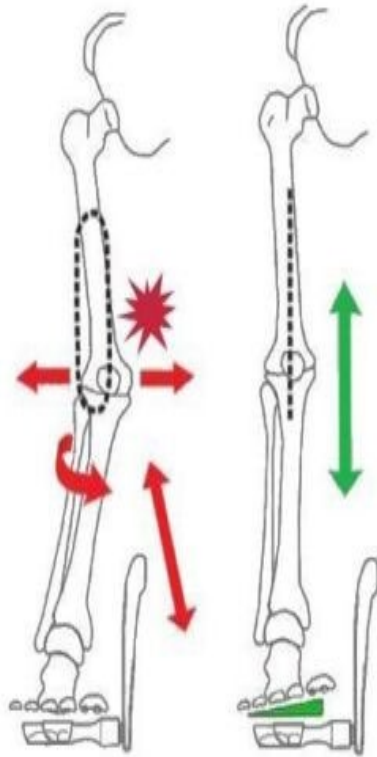
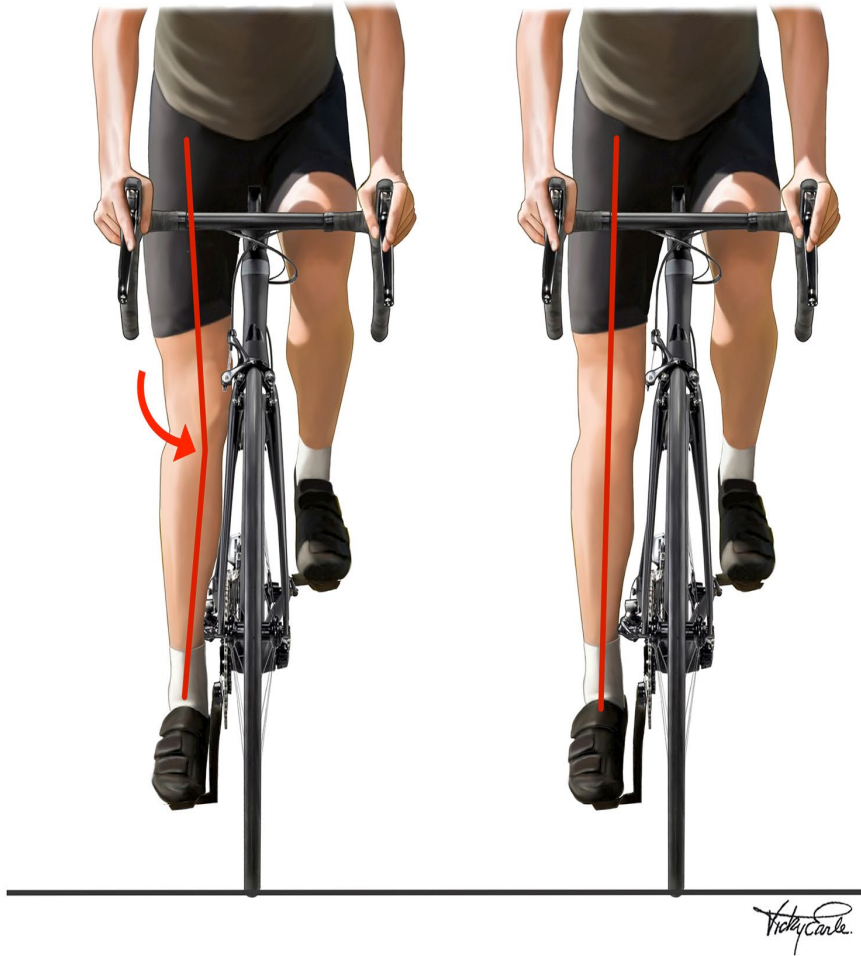
Received 20 May 2019; revised 18 July 2019; accepted 18 July 2019

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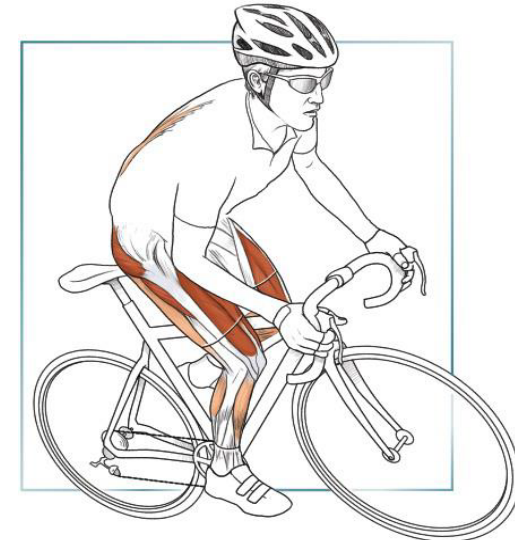
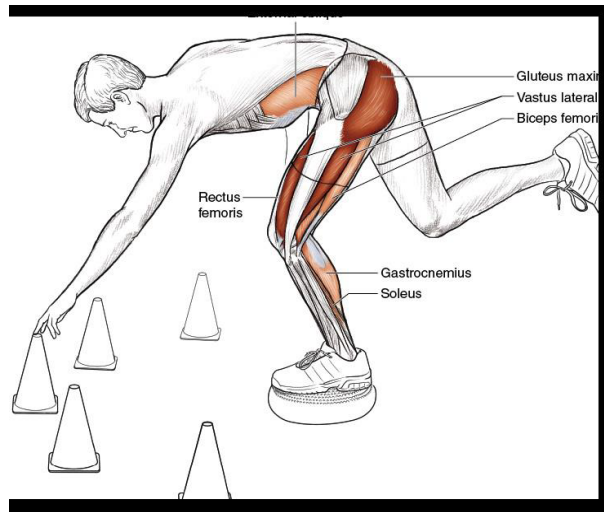
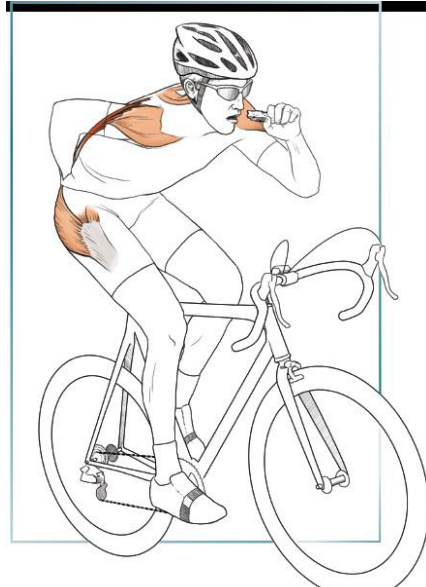
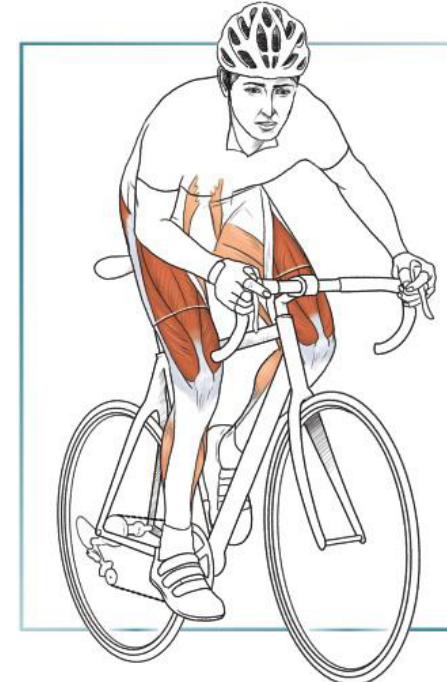
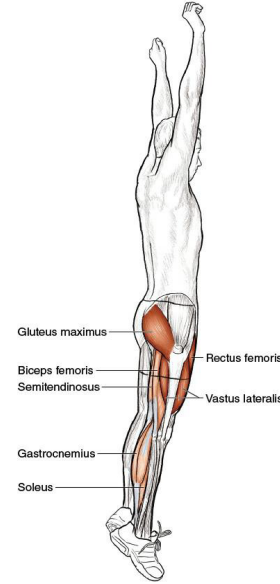
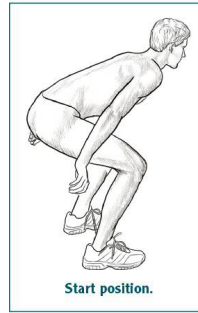
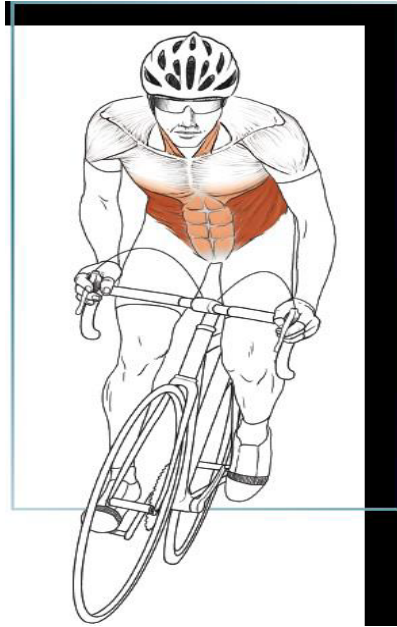
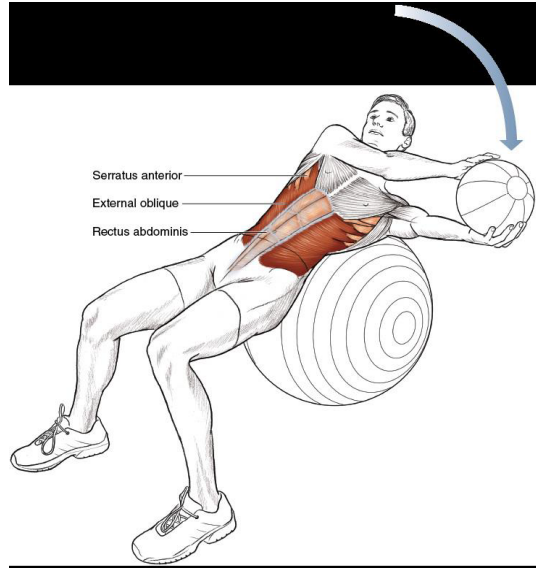
- QF modülasyonu, egzersiz veya rehabilitasyon amacıyla sabit bisiklet ergometresi kullanıldığında ön düzlem eklem yükünü etkileyebilir.

Kinovea





Kuvvet ve Güç Antrenmanları



Drill Analizi



Muscles

Target

- [Quadriceps](#)

Synergists

- [Gluteus Maximus](#)
- [Adductor Magnus](#)
- [Soleus](#)

Dynamic Stabilizers

- [Hamstrings](#)
- [Gastrocnemius](#)

Stabilizers

- [Erector Spinae](#)
- [Deltoid, Anterior](#)
- [Deltoid, Lateral](#)
- [Supraspinatus](#)
- [Pectoralis Major, Clavicular](#)
- [Trapezius, Upper](#)
- [Trapezius, Middle](#)
- [Levator Scapulae](#)
- [Trapezius, Lower](#)
- [Serratus Anterior](#)

Antagonist Stabilizers

- [Rectus Abdominis](#)
- [Obliques](#)

Anasayfa / Performans ve Spor / Dayanıklılık Sporları /

Dayanıklılık Sporları Bisiklet Sürmek Hareket ve Antrenman Bilimi Kuvvet Antrenmanı

Triatletlerde Kuvvet Antrenmanı, Simüle Edilmiş Triatlonda Bisiklet ve Koşu Ekonomisini Geliştirir

Int. J. of Sports Physio. and Performance - Şubat 2021



Hakan ARSLAN

14 Ekim 2022



0



205



3 dakika okuma süresi

[Anasayfa](#) / [Performans ve Spor](#) / [Dayanıklılık Sporları](#) /

[Dayanıklılık Sporları](#) [Bisiklet Sürmek](#) [Hareket ve Antrenman Bilimi](#) [Karnın Kasları](#)

Bisiklet Mekanikliği ve Kor Stabilizasyonu Arasındaki İlişki

J. of Strength and Conditioning R. - Kasım 2007



Hakan ARSLAN

• 1 Eylül 2022



0



228



2 dakika okuma süresi



JAN ULLRICH

- 2000 SIDNEY





1-Aerodinamik

- Yüksek hızlarda enerji harcamasının birincil sebebi,

$$F_D = \frac{1}{2} \rho A C_D v^2$$

Sürtünme Kuvveti Formül Sabiti Hava Yoğunluğu Yüzey Alanı Sürtünme Katsayısı Hızın Karesi

LANCE ARMSTRONG



Viatcheslav Ekimov

- 2004 ATINA





TÜRKİYE
TRIATLON 
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Sabrınız İçin Teşekkürler

Sağlık Bilimleri Enstitüsü /
Spor Sağlık Anabilim Dalı

Hakan Arslan