

PREVENTION ROAD

Cycling Injury Prevention

Great Tips for Great Rides

BY THOMAS BENNETT

The sport of cycling is culturally similar to long distance running. It involves a very fixed position that demands an enormous amount of both mental fortitude and physical endurance. These demands show that even the most amateur of cyclists are strong willed and dedicated, meaning that when a sports medicine specialist gives them an injury prevention program, they will follow it with conviction. However, cycling, unlike running, involves a complex component. This component is the bike itself, making injury prevention very difficult as the bicycle can have interesting effects on biomechanics depending on the event an individual participates (Mountain, Road, cyclocross etc.). This article will discuss variables related to both equipment and biomechanics, what they mean, why they are important, and how to address them.



Meet Thomas



MPSM, LAT, ATC, FMT, FMS, ITAT, GT

Thomas is the Assistant Athletic Trainer for the RecWell Athletic Training Program since the program's inception in 2018. He has a passion for health and wellness and actively participates in adventure sports such as mountain biking, stand-up paddle boarding, and kayaking.

Contact Thomas at thomasbennett@som.umaryland.edu.



The first theme is equipment, which is highly specific to the individual participant. Overuse injuries and ailments can occur when an assessment of a cyclist against the interface of a bicycle is not considered, causing improper body position on the bike. Since bicycles are designed for specific demands, the various parts such as frame geometry, handlebar shape, saddle, and pedal system need to be properly selected based on the cyclist's desired body position and function (2). Bike fit is very important and involves a legitimate assessment from a cycling industry professional. With a correctly fitted cycle based on goals and performance needs we can prevent common injuries. The most common anatomical sites for overuse injuries are:

- the neck (48.8%)
- knee (41.7%)
- groin/buttock area (36.1%)
- hands (31.1%)
- lower back (30.3%) (3)

In order to effectively manage these overuse injuries, a correct diagnosis of the injury must be established, followed by the identification of elemental intrinsic (cyclist) and extrinsic (bicycle, environment) variables³. To find out more about how to address equipment related issues (such as fitkits) especially in these tricky times of social distancing try reaching out and consulting with the [RecWell bike shop personnel at or get in touch with RecWell Athletic Training](#).

The second of the two themes are biomechanics. Biomechanics are specific to the cyclist and the performance demands of the program or race. Remember, not everyone is the same size, same weight or even have the same cycling capabilities (power and endurance production) as the rider next to them, everyone is different. This is where Athletic Trainers and sports medicine specialists come in, we perform assessments related to kinesiology: joint range of motion, limb length assessment and motion analysis while on the bike itself. Currently, the RecWell Athletic Trainers are unable to do all of these fancy things because of social distancing guidelines so we came up with a safe and easy way to participate in injury prevention using body weight exercises based on industry related knowledge and statistics. In the context of cycling, it has been found that decreased core strength can lead to misalignment issues of the lower extremity¹. This malalignment in combination with a cyclist's excessive cadence, increased riding volume, and intensity to maintain a given power output all increase the potential for injury¹. As most people know, core strength and stability combined with mobility of the lower extremities is important for several reasons and I have provided exercises and links to programs below to provide maintenance to these important supporting structures. In any case, it is usually preferred that you communicate any questions about programming to medical, exercise, or sports medicine professionals prior to beginning.





THE BASICS

Complete the following exercises every other day or pick 2 or 3 at a time and complete every other day

Plank

2-3 sets

30-60sec holds



Side Plank

2-3 sets

30-60sec holds



Superman

2-3 sets

30-60sec holds

Bird Dog

2-3 sets

10-15 reps hold each rep for 2-3 secs





THE BASICS

wing exercises every other day
 Complete the following exercises every other day
 pick 2 or 3 at a time and complete every other day



Glute / Single Leg Glute Bridge
 2-3 sets
 10-15 reps
 hold each rep for 2-3 secs
 Do not arch your back

Dead Bugs
 2-3 sets
 10-15 reps
 hold each rep for 2-3 secs
 Ensure back is flat



PHOTO: ANDREW HARRIS / GETTY IMAGES



Static Trunk Lumbar Rotation
 2-3 sets
 10-15 reps
 Hold each rep for 2-3 secs
 Do not let legs touch ground



ARTICLES

(Links included)

Mobility

- [8 stretches to improve your flexibility and cycling performance](#)
- [Six Stretches for Cyclists to Improve Hip & Thoracic Spine Mobility](#)

Core Stability

- [Lumbar/Core Strength and Stability Exercises](#)
- [The 5 Essential Core Exercises For Cyclists](#)

SOURCES

1. ABT, J. P., Smoliga, J. M., Brick, M. J., Jolly, J. T., Lephart, S. M., & Fu, F. H. (2007). Relationship Between Cycling Mechanics and Core Stability. *Journal of Strength and Conditioning Research*, 1300-1304.2.
2. Kotler , D. H., Babu, A. N., & Robidoux, G. P. (May/June 2016). Prevention, Evaluation, and Rehabilitation of Cycling-Related Injury. *American College of Sports Medicine; Current Sports Medicine Reports* , 199-206.3.
3. Schwellnus MP, MBBCh, MSc (Med), MD, FACSM, & Derman EW, MBChB, PhD, FACSM. (2005). Common injuries in cycling: Prevention, diagnosis and management. *South African Family Practice*, 14-19.