



PERFORMANCE CYCLING CONDITIONING

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From Frazier Cycling: Issue and Questions in Youth Cycling Development #13 Overuse Injuries and Youth Cyclists

Ralph Frazier and Kelli Rogan- Frazier Cycling

Frazier Cycling's Atlanta-based Junior Development Program was developed by Ralph Frazier and Kelli Rogan. Ralph has over 35 years of cycling experience as an endurance and marathon racer and a coach. Kelli has 10 years experience of coaching juniors and masters as well as an impressive track and race racing career. Frazier Cycling has a mission to develop the next generation of cyclists with an appreciation for the sport, life-long physical fitness, sportsmanship, teamwork and commitment. As the southeast's largest junior development program, they have been recognized by USA Cycling News as "an excellent model for other junior development initiatives" ...focusing on "character as much as athletic ability." The 2008 Frazier Cycling Juniors team holds 9 state championships and 9 national medals, including 2 national championship titles.

The publisher of this newsletter, Ken Kontor, suggested that we write a column concerning overuse injuries and young cyclists sighting a position paper published by the National Athletic Trainers Association (NATA). (see companion report accompanying this article). The paper was not specific to cycling, but "the concept of doing too much is an issue... With growing young kids this becomes even more important." As a result, Ken suggested that we may "want to address some aspect of this in coaching young cyclists."

The position paper, *National Athletic Trainers' Association Position Statement: Prevention of Pediatric Overuse Injuries* (April 2011), was very informative and particularly interesting because the purpose of the position paper is to provide certified athletic trainers, physicians, and other health care professionals with current best practice recommendations regarding the prevention of overuse injuries in athletes from the ages of 6–18 years. **Chain Link:** Click [HERE](#) for a summary article on the full report from the publisher.

According to the paper, overuse injuries for our youth "represent a significant health care concern." The paper points out that some reports and clinical observations indicate that half of those pediatric patients visiting sports medicine clinics are for chronic injuries. Furthermore, these injuries often result in several physician visits, recurring rehabilitation, and lost participation time in their sport.

The position paper is concentrated on pediatric overuse injuries for repetitive sport activities including pitching (baseball), tennis, running, soccer, basketball, volleyball, gymnastics, cheerleading, and ice skating. Cycling is not mentioned. This omission could be due to the relatively small number of young participants compared to those of other sports. Even so, cycling qualifies as a repetitive sport activity because of the highly repetitive action of pedaling. I believe that the small number of participants is a factor in cycling not being included in the paper; however, it is my opinion that cycling does not present the skeletal and muscular strain



Ralph Frazier



Kelli Rogan



inherent to the other cited sports and activities. Of course, I'm partial to cycling, but throughout our eight years of training junior cyclists, we have not observed any chronic "overuse" injuries due to cycling. The most closely associated ailment reported by our young cyclists is "achy knees". Primarily this ailment has been reported by some of our girls, ages 12 to 14, as they enter puberty. Each time this ailment has been reported, it has been quickly remedied by making adjustments to saddle height and/or saddle fore/aft position to accommodate their growth. Also, our team physical therapist has provided specific stretching exercises to expedite flexibility and recovery. These remedies have been very successful. In fact, none of the athletes who have experienced "achy knees" has developed any chronic impairments that have impacted their normal training routine. It is likely these ailments would become chronic without intervention. Additionally, perhaps we would have more reports of "achy knees" if we would not proactively by constantly monitoring saddle position for each junior athlete. Indeed, monitoring and adjusting saddle position could be considered a necessary "preventative measure".

The NATA position paper noted that certain athletic governing bodies and organizations have instituted sport changes to accommodate young athletes. The paper mentions USA Cycling's gear-ratio restriction for juniors, Australia's age-related regulations that include race distance limitations, and USA Swimming's recommendations for the number of sessions per week and the length of each session for various levels of competitive age-group swimming.

I found these sports changes interestingly familiar. Obviously, the gear-ratio restriction is familiar, but USA Swimming's approach is very similar to the approach that we use within our Frazier Cycling program levels for juniors. Originally, we discussed our program levels in our series **Creating and nurturing a Youth Cycling Pipeline – Youth Programming**. **Chain Link:** For the entire article click [HERE](#).

As you look at the overview, keep in mind that each weekly training schedule is based on age, physical development, and competency/experience. The progression of program level corresponds with the progression of age, physical development, and competency/experience.

- Program Level 1 – minimal practices and rides for competitive training – typically ages 10 – 12
- Program Level 2 (training years 2 to 3) – practices and rides for serious competitive training – typically ages 13 – 14.
- Program Level 3 (training years > 3) – practices and rides for ultimate competitive training – veteran riders, ages 15 – 18

Here is an example our guideline table for the number of weekly training workouts for each Age Group and Program Level.

Age Group	Beginner	Weekly training workouts	Intermediate	Weekly training workouts	Advanced	Weekly training workouts
10-12	Level 1	2 – 3	Level 1 & 2	3 – 5	Level 2	4 – 6
13-14	Level 1 & 2	2 – 3	Level 2	4 – 6	Level 2 & 3	5 – 8
15-16	Level 1 & 2	2 – 3	Level 2 & 3	4 – 6	Level 2 & 3	6 – 9
17-18	Level 1 & 2	2 – 3	Level 2 & 3	4 – 6	Level 3	6 – 9

- Beginner: training years < 2
- Intermediate: training years, 2 to 3
- Advanced: training years > 3

Although we have not experienced chronic overuse injuries among our junior cyclists, I certainly agree with the position paper's conclusion which states "the major objective in managing repetitive or training injuries in athletes of any age should be to determine the risk factors for injury and identify steps to prevent the occurrence of these injuries." This emphasizes the importance of structuring your program's practices to address the different age groups. Remember, juniors are not little adults. ●

Got a Youth Development Question?

If there is a particular topic you'd like us to discuss or if you would like to share a junior coaching experience or ask a question, contact us at 770-513-8640 or info@fraziercycling.com. We will publish your requested information in the next issue as space allows.