Evolving Strategies for Cyclists on Mitigating and Recovering From COVID-19

Colombian sprinter Fernando Gaviria became the first professional cyclist to contract coronavirus in March 2020. Despite some claims at the time, one year later we now know that COVID-19 turned out to be much worse than the flu. Professional bicycle racing was disrupted on a scale unseen since World War II as the pandemic swept unchecked across the globe. Domestic mass participation events were eliminated, and even casual group rides were considered potential health risks.

Despite initial pessimism, professional cycling managed to salvage an abbreviated European racing season which included all three grand tours, thanks to effective risk mitigation strategies: regular PCR tests, mask-wearing, and physical distancing. COVID-19 presented an ever-shifting landscape with many hurdles along the way. The riders in Tour de France and the Vuelta a España were mostly unaffected by COVID-19, but the Giro d'Italia turned out to be a roller coaster ride with two teams (Mitchelton-Scott and Jumbo-Visma) being forced to withdraw following a series of positive COVID-19 tests. Even more concerning, was Gaviria's testing positive again during the Giro, eight months after his first bout with COVID-19, making him one of the world's first high-visibility cases of reinfection. Perhaps this wasn't a one-and-done illness.

The 2021 season began with news of Peter Sagan testing positive for COVID-19, reinforcing the fact that the pandemic will likely continue antagonizing professional cycling regardless of station or status through the coming season as well. Rising cases in Europe, the emergence of highly contagious COVID-19 variants, and the possible risk of re-infection – although still considered rare – all underscore the need for continued vigilance. Fact: the 2021 cycling season is certain to encounter continuing challenges.

COVID-19 Risk Mitigation Strategies

The pro peloton will see continued regular PCR testing during 2021 (particularly, as the UCI continues to reject COVID-19 antigen testing as being unreliable). Masks and physical distancing will continue to be the norm, along with restricted contact between the race bubble and spectators – especially for events scheduled in areas of high COVID-19 transmission.

Preserving the integrity of the protective bubble within the race, during off-the-bike activities, and especially inside the team hotels is critically important. In fact, non-racing activities probably represent the highest COVID-19 risk. (For example, when Simon Yates left the Giro, he attributed his infection to the communal hotel dining areas in Sicily). Riders, staff, and management will be tested twice before each block of racing and on each rest day of grand tours. Teams will only be tested once between races if the intervening period between events is less than 10 days. Once a rider is away from competition for 14 days, the clock is reset, and they must once again provide a negative PCR test six days, as well as 72 hours before the start of their next race.

Some countries may require PCR tests before entering, implying further testing for all involved. Even those fully vaccinated will continue to have PCR tests, since asymptomatic transmission in vaccinated individuals is still possible. (UAE-Team Emirates riders received the Sinopharm COVID-19 vaccination before the start of the season, in what was thought to be a major competitive advantage. However, the team was nevertheless forced to withdraw from Fleche Wallone due to a series of positive COVID 19 test results, one involving Diego Ulissi.)

Most of us are not afforded the luxury of routine PCR testing within a protective bubble. Consequently, riders should assume that either they have COVID-19 and don't want to spread it to others, or that other riders have the virus and they want to don't catch it. This strategy is critically important since the initially asymptomatic spread of the virus was severely underestimated. Now we know that about 40 percent of new coronavirus cases are spread by asymptomatic people. Mask wearing and social distancing are therefore of paramount importance for cyclists, analogous to the non-riding public.

Solo and small group rides with known, close contacts are likely safe venues. Larger groups with unfamiliar people are at higher risk and currently not recommended, especially in areas of high COVID-19 transmission. If group riding is planned, anyone with known, close-contact with an infected individual, or experiencing COVID-19 symptoms (fever, chills, fatigue, cough, upper respiratory symptoms, body aches, or loss of smell/taste) should stay home and consult their physician before they resume training. Higher risk riders for COVID-19 complications (age 65+; those with pre-existing medical conditions – especially cardiac or immune-compromised patients) should consider training solo until fully vaccinated and cleared by their doctor.

Personal cycling etiquette significantly reduces COVID-19 transmission risk in groups: avoid being in someone's slipstream; ride side by side or more than 20 feet behind another rider; wear a mask to prevent your from touching your mouth, nose, face, or eyes; avoid passing water bottles and food; clean your hands and equipment after the ride.

Recovering from a COVID-19 Infection

Some cyclists will invariably contract coronavirus. One year ago, we thought only certain "vulnerable" people were susceptible to COVID-19 complications, creating a false sense of security. Healthy athletes do generally fare better, but over the past year, we have learned that neither age nor lifestyle grants immunity from COVID-19 – young healthy individuals with no underlying conditions have died. In fact, nearly 8,000 people and counting between ages 18-40 have died in the U.S. from COVID-19 – some of them fit and athletic.

One pivotal thing we've learned about COVID-19 is that it's not only a respiratory illness but rather a systemic inflammatory process capable of causing a myriad of problems, including serious heart issues. Last year we realized that in hospitalized patients, about 20 percent had heart problems. Admittedly, these patients were older, had additional risk factors or pre-existing cardiac conditions, and were not representative of an athletic population. But one year later, the risk in young athletic patients – less likely to have underlying health problems – is in fact still murky. What is clear is that the risk of heart inflammation – *myocarditis* – is probably the most important consideration when returning to competition, as it represents a significant risk factor for developing sudden cardiac death (SCD) during exercise. This applies to elite and amateur competitors alike.

Last year we outlined recommendations for returning to cycling following a COVID-19 infection. Since then, risk assessment strategies have continued to evolve, but in the absence of definitive data, there remains some uncertainty about the best way to evaluate athletes before they return to competition, with protocols being based on expert consensus opinion.

Asymptomatic athletes testing positive for COVID-19, or with mild symptoms (self-limited fatigue, headache, cough, congestion, or GI symptoms including nausea, vomiting, and diarrhea), generally do not require evaluation before returning to training. Abstinence from exercise is recommended for 10 days following the positive test result, and if any symptoms are present, training should be avoided for another 10 days, or until recovered. Gradual return to exercise without specific cardiac testing is reasonable,

unless new symptoms develop along the way. Athletes with prolonged illness, or development of new symptoms after returning to exercise, need a more comprehensive medical evaluation; testing, including an EKG, hs-troponin (blood test to assess heart injury), and echocardiogram may all be appropriate.

Athletes with moderate symptoms require an evaluation, and additional testing before exercise resumes. They may not be hospitalized but can be quite ill, with symptoms including high fever (100.4F degrees or above), fatigue, muscle aches, pneumonia, shortness of breath, or chest pain. Following complete symptom resolution, and prior to resumption of exercise, these athletes need a medical evaluation to determine whether testing (EKG, hs-troponin level, or echocardiogram) is necessary. Some may be able to slowly return to training without testing, but those who are older (age 65+) or have other underlying cardiovascular risk factors (coronary artery disease, hypertension, atrial fibrillation, or diabetes mellitus), probably need additional testing. In elite-level competitors, such testing would be considered mandatory.

Athletes with severe COVID-19 infection are generally hospitalized. Once recovered, they need a comprehensive assessment before the resumption of exercise. Often the prerequisite testing is done during their hospitalization. Following discharge and complete symptom resolution, they are restricted from exercise for another 2 weeks before undergoing an outpatient evaluation. Any testing not completed while hospitalized is done at this time, followed by a gradual return to training with input from medical staff, trainers, etc. New symptoms require further evaluation, possibly including a cardiac MRI.

During the evaluation of any athlete with COVID-19, regardless of the severity of symptoms, and any suggestion of heart involvement should trigger a cardiac MRI before returning to exercise. Sometimes, abnormal cardiac findings may be complicated by the potential effects of long-term athletic conditioning on the heart, but if a diagnosis of myocarditis is suspected, three to six months of rest is recommended, followed by repeat testing – which may include an echocardiogram, stress test, and cardiac monitor to ensure normal heart function and exclude any significant heart rhythm issues which could put the athlete at risk for SCD.

Return to training following COVID-19 infection is ultimately a process of shared decision-making between the physician and athlete, especially if diagnostic test results fall in the “gray zone” of findings overlapping with normal adaptive changes of an athletic heart.

Some athletes may have positive COVID-19 antibodies which, unlike PCR tests indicating active COVID-19 infection, imply prior recovered infection at an unknown time. They do not require additional testing unless they experienced COVID-19 symptoms described above, in which case the appropriate treatment algorithm would be chosen based on their symptoms.

Rapid progress is being made in fighting COVID-19 with vaccines, providing hope for a gradual return to normalcy, although no one is certain about how the new “normal” may look. The recent uptick in cases is a sobering reminder that the pandemic is not over yet, and rather than relaxing our collective guard, we should double down on efforts to contain COVID-19. Protect yourself. See your doctor if you get sick. Live to ride another day.

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