



Global Best Practices on Modalities for Safety Precautions in Professional and Non-Professional Sporting Activities During Covid-19 Pandemic

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Abstract

The emergence of novel SARS-Coronavirus-2 (COVID-19) which has halted virtually all formal participation in sport and exercise since March, 2020 in Nigeria and the world in general, is a virus that originated from Chinese and has since spread across the entire globe, to the extent that consideration for reopening of event centers' including sports facilities after series of measures that were put in place by the Government at all levels to curb the spread in order to flatten the curve has generated a lot of great debate. However, Public health guidelines have begun releasing timelines for a graded reintroduction of both recreational and competitive athletics. Hence, the foremost question to those individuals with prior COVID-19 exposure/infection regarding the safety of returning to exercise is still under investigation (NCAA, 2020). The World Health Organization reports that most people who contract COVID-19 (>80%), will be asymptomatic or develop mild symptoms. There are many unanswered questions with ever changing data regarding the prevalence of asymptomatic COVID-19 cases in the community, the prevalence of cardiac injury for all exposed to COVID-19 and the associated short- and long-term risks. Until there is a vaccine in place, medical experts recommend adopting specific practices including testing and social distancing when possible and having plans in place for stopping the spread in this unprecedented time of return to socialization after stretched lockdown. Based on the aforesaid, the researchers are of the opinion that it will be of great significance to align with global best practices in coming up with appropriate guidelines to avert possible risk with reference to the spread of Covid-19 amongst players, spectators, coaches, administrators and other members of Staff of the State Sports Councils and Commissions in Nigeria while adjusting to the new normal.

Keywords: Pandemic, Covid-19, Safety, Professional Sports, Non-Professional Sports, Virus, Droplet.

Reference to this paper should be made as follows:

Awoyinfa, J. O., Nariwoh, O. A., & Akarah, I. P. (2020). Global best practices on modalities for safety precautions in professional and non-professional sporting activities during covid-19 pandemic. *International Journal of Scientific Research in Education*, 13(4), 637-649.

INTRODUCTION

For the first time in humans history, the entire world was caught by a terrible unannounced and unexpected deadly virus that put every Nations of the world on hold and total lock down since March 2020, it is on record that this deadly virus originated from china in the year 2019, the very reasons while the world health organization named it covid-19 (Awoyinfa 2019). Despite the fact that athletes may only experience mild symptoms as a result of COV-19, key prevention strategies are necessary for multiple reasons. To start with, preventing the transmission of COVID-19 is needed to reduce the risk of spread to individuals within a community who are most at risk of severe infection or death, which includes older individuals and the immune compromised individuals. Avoidance of COVID-19 is also important for the competitive athletes to minimize interruptions during training and the adverse effects that it could have on his or her respiratory tract and aerobic capacity in both the short, medium and long term (National Collegiate Athletic' s Association, 2020).

Earlier cases of COVID-19 were associated with a seafood market in Wuhan, the virus has since spread person-to-person primarily via respiratory droplets. This mode of transmission occurs when the virus, in the form of respiratory secretions from coughing or sneezing, contacts another person's mucous membranes. The rate of secondary COVID-19 infections ranges from 1% to 5%.

Transmission can also occur if a person touches his or her eyes, nose, or mouth after touching a surface containing respiratory droplets with the virus, which can remain viable for hours to days. Pre-symptomatic and asymptomatic carriers, which comprised 48% of the 531 cases recorded at the community level. At the moment, there is no evidence that the virus is spread through the shipment of food or other products from overseas.

Although, there are not yet any specific scientific studies evaluating the risk of COVID-19 transmission in sport, it is logical that certain sports will have a higher risk than others. Furthermore, since COVID-19 can result in critical illness or death, consideration of the inherent risk associated with different sports should be part of the planning process.

Proposed risk stratification scale for COVID-19 transmission in sports is hereby presented as follow:

Table 1: High Risk Sports

S/N	HIGH RISK SPORTS	REMARKS
1.	Wrestling	Sports that involves close, sustained contact between participants, lack of significant protective barriers and high probability that respiratory particles will be transmitted between participants.
2.	Boxing	
3.	Judo	
4.	Karate,	
5.	Taekwondo,	
6.	Rugby	

Table 2: Moderately Risk Sports

S/N	NAME OF SPORTS	REMARKS
1.	Basketball	Sports that involve close, sustained contact, but with protective equipment in place that may reduce the likelihood of respiratory particle transmission between participants or intermittent close contact or group sports OR sports that use equipment that cannot be cleaned between participants.
2.	Volleyball	
3.	Baseball	
4.	Football	
5.	Gymnastics (If Equipment cannot be sufficiently cleaned between Gymnast)	
	Hockey	
6.	Table Tennis	
7.	Tennis	
8.	Swimming Relays	
9.	Pole Vault	
10.	High Jump	
11.	Long Jump	
12.	Badminton	
13.	Cycling In A Group	
14.	Running In A Group	
15.	Triathlon	
16.	Fencing	

Table 3: Low Risk Sports

S/N	NAME OF SPORTS	REMARKS
1.	Shooting	Sports that can be done with social distancing or Individually with no sharing of equipment or the ability to clean the equipment between use by competitors.
2.	Individual Running Events	
3.	Individual	
4.	Cycling Events	
5.	Individual Swimming	
6.	Individual Canoeing,	
7.	Individual Kayaking	
8.	Golf	
9.	Skateboarding	
10.	Weightlifting	
11.	Individual Rowing	
12.	Individual Speed skating	

Anticipated Measures

The following offers guidance for the use and administration of the States’ Sport infrastructures to avoid being infected and at the same time mitigate spread of Covid-19. The Management of each of the State Sports Councils/Commissions should consider the guides as presented hereunder;

1. Appointment of COVID-19 Coordinator

- Assign a COVID-19 manager to supervise all aspects of the COVID-19 hazard plan including development from appropriate resources, implementation, monitoring, updates/changes, communications, staff training, regulatory compliance and answering player, parent and staff questions about COVID concerns.
- Train all players and staff on appropriate cleaning and disinfection, hand hygiene and respiratory etiquette (NCAA, 2020).

2. Assessing Risk

- The way sports are played and the way equipment is shared can influence the spread of COVID-19 among players. When you are assessing the risk of spread in your sport, consider physical closeness of players, and the length of time that players are close to each other or to staff.
- Sports that require frequent closeness between players may make it more difficult to maintain social distancing, compared to sports where players are not close to each other. For close-contact sports (e.g., wrestling, basketball), play may be **modified** to safely increase distance between players. For example, players and coaches can:
 - Focus on individual skill building versus competition;
 - Limit the time players spend close to others by playing full contact only in game-time situations;
 - Decrease the number of competitions during a season.
- Coaches can also modify practices so players work on individual skills, rather than on competition. Coaches may also put players into small groups (cohorts) that remain together and work through stations, rather than switching groups or mixing groups.
- Amount of necessary touching of shared equipment and gear (e.g., protective gear, balls, bats, racquets, mats, or water bottles). It is also possible that a person can get COVID-19 by touching a surface or object that has the virus on it, and then touching their own mouth, nose, or eyes.
- Minimize equipment sharing and clean and disinfect shared equipment between use by different people to reduce the risk of COVID-19 spread.
- Ability to engage in social distancing while not actively engaged in play (e.g., during practice, on the sideline, or in the dugout). During times when players are not actively participating in practice or competition, attention should be given to maintaining social distancing by increasing space between players on the sideline, dugout, or bench.
- Additionally, coaches can encourage athletes to use downtime for individual skill-building work or cardiovascular conditioning, rather than staying clustered together (NCAA, 2020).

3. Functional Conveniences with Adequate Running Water

Ensure that open restrooms are:

- Operating with functional toilets.
- Cleaned and disinfected regularly, particularly high-touch surfaces such as faucets, toilets, doorknobs and light switches.
- Clean and disinfect restrooms daily or more often if possible using disinfectants that are effective against SARS-CoV-2 which is the virus that causes COVID-19.
- Following the Guidance for Cleaning and Disinfecting to develop, implement and maintain a plan to perform regular cleanings to reduce the risk of exposure to COVID-19.
- Regularly stocked with supplies for handwashing, including soap and paper towels for drying hands or hand sanitizer with at least 60% alcohol and no touch trash cans.
- Encourage visitors to bring their own hand sanitizer with at least 60% alcohol for use in the Sports facilities (Centers for Disease Control and Prevention , 2020).

4. Introduction of Wash Hand Stations and Water Systems

- To minimize the risk of diseases associated with water, management of the Lagos State Sports Commission should take steps to ensure that all water systems and features are safe to use after a prolonged facility shutdown.

- Strategic placements of wash hand basins with running water and soap across sports facilities in Lagos State.
- Automatic /infrared censored basins are advisable to be installed

Communication Systems (National Collegiate Athletics' Association, 2020)

Put systems in place for:

- Consistency with applicable law and privacy policies, having coaches, staff, umpires/officials, and families of players (as feasible) self-report to the authority if they have symptoms of COVID-19.
- Positive test for COVID-19 or were exposed to someone with COVID-19 within the last 14 days in accordance with health information sharing regulations for COVID-19.
- Notifying staff, officials, families and the public of the State sports facility closures and restrictions in place to limit COVID-19 exposure (e.g., limited hours of operation).

1. Age of the player

- Older youth might be better able to follow directions for social distancing and take other protective actions like not sharing water bottles. If feasible, a coach, parent, or other caregiver can assist with making sure that athletes maintain proper social distancing.
- For younger athletes, youth sports programs may ask parents or other household members to monitor their children and make sure that they follow social distancing and take other protective actions (e.g., younger children could sit with parents or caregivers, instead of in a dugout or group area (NCAA, 2020).

2. Modified Layouts and Social (Physical) Distancing (Bumbaca, 2020)

- Sports Coordinators and Secretaries of each Sports Association's should be available to ensure social distance adherence among youth, coaches, umpires/referees, vendors and spectators (if state directives allow for spectators).
- Players should be spaced at least 6 feet apart on the field while participating in the sport (e.g., during warm-up, skill building activities, simulation drills)
- Discourage unnecessary physical contact such as high fives, handshakes, fist bumps or hugs.
- Prioritize outdoor as opposed to indoor practice and play as much as possible.
- Create distance between players when explaining drills or the rules of the game.
- If keeping physical distance is difficult with players in competition or group practice, consider relying on individual skill work and drills.
- Encourage players to wait in their cars with guardians or keep a distance in the absence of vehicles until just before the beginning of a practice, warm-up, or game, instead of forming a group.
- Limit the use of car pools or van pools. When riding in an automobile to a sports event, encourage players to ride to the sports event with persons living in their same household.
- If practices or competition facilities must be shared, consider increasing the amount of time between practices and competitions to allow for one group to leave before another group enters the facility. If possible, allow time for cleaning and/or disinfecting.

3. Staggered Training and Events Scheduling (NCAA, 2020)

- Stagger arrival and drop-off times or locations by cohort (group) or put in place other protocols to limit contact between groups and with guardians as much as possible.

- One example is increasing the amount of time between practices and competitions to allow for one group to depart before another group enters the facility. This also allows for more time to clean the facility between uses.
 - When possible, use flexible worksites (e.g., working remotely) and flexible work hours (e.g., staggered shifts) to help establish policies and practices for social distancing (maintaining a distance of approximately 6 feet) between employees and others, especially if social distancing is recommended by National and State Health authorities.
- 4. Players at higher risk of developing serious disease.**
- Parents and coaches should assess level of risk based on individual players on the team who may be at higher risk for severe illness, such as children who may have asthma, diabetes, or other health problems.
- 5. Size of the team.**
- Sports with a large number of players on a team may increase the likelihood of spread, compared to sports with fewer team members. Consider decreasing team sizes, as feasible.
- 6. Non-essential visitors, spectators, volunteers, vendors**
- Limit any nonessential visitors, spectators, volunteers, and activities involving external groups or organizations.
- 7. Walk Through Sanitization Entrance**
- Installation of sanitization tube across facilities
- 8. Automatic Hand Sanitizers Dispenser**
- Positioning of automatic hand sanitizers at the entrance of doors and gates
- 9. Travel outside of the Local Community.**
- Traveling outside of the Local Community may increase the chances of exposing players, coaches, and fans to COVID-19 or unknowingly spreading it to others.
 - This is the case particularly if a team from an area with high levels of COVID-19 competes with a team from an area with low levels of the virus.
 - The Sports authorities' should consider competing only against teams in their local area (e.g., neighborhood, town, or community).
- 10. Promoting Behaviors that Reduce Spread**
- The Sports authorities in Nigeria should consider implementing several strategies to encourage behaviors that reduce the spread of COVID-19.
- 11. Staying Home when Appropriate**
- Educate staff and player families about when they should stay home and when they can return to activity.
 - Actively encourage sick staff, families and players to stay home. Develop policies that encourage sick employees to stay at home without fear of reprisal and ensure employees are aware of these policies.
 - Individuals including coaches, players, and families should stay home if they have tested positive for or are showing COVID-19 symptoms.
 - Individuals including coaches, players and families, who have recently had a close contact with a person with COVID-19 should also stay home and monitor their health (NCAA, 2020).
- 12. Hand Hygiene and Respiratory Etiquette**
- Teach and reinforce hand washing with soap and water for at least 20 seconds

- If soap and water is not readily available, hand sanitizer that contains at least 60% alcohol can be used (for staff and older children who can safely use hand sanitizer).
- Do not allow spitting and encourage everyone to cover their coughs and sneezes with a tissue or use the inside of their elbow.
- Used tissues should be thrown in the trash and hands washed immediately with soap and water for at least 20 seconds.

13. Cloth Face Coverings

- Teach and reinforce the use of cloth face coverings face coverings are not intended to protect the wearer, but rather to reduce the risk of spreading COVID-19 from the person wearing the mask (who may not have any symptoms of disease).
- Face coverings may be challenging for players (especially younger players) to wear while playing sports.
- Face coverings should be worn by coaches, staff, officials, parents, vendors and spectators as much as possible.
- Wearing cloth face coverings is most important when physical distancing is difficult.
- People wearing face coverings should be reminded to not touch the face covering and to wash their hands frequently.
- Information should be provided to all participants on the proper use, removal, and washing of cloth face coverings (NCAA, 2020)..

Note: Cloth face coverings should not be placed on:

- Babies and children younger than 2 years old;
- Anyone who has trouble breathing or is unconscious;
- Anyone who is incapacitated or otherwise unable to remove the cloth face covering without assistance.

14. Adequate Supplies (Covid-19 Sports Guidance for Youth and Adults-Minnesota,2020)

- Management of the sports authorities should endeavor to make hand washing facilities available, support healthy hygiene by providing supplies including soap, paper towels, tissues and no-touch/foot pedal trash cans in all the sports facilities.
- If hand washing facilities are not available, provide hand sanitizer with at least 60% alcohol (for coaches, staff and older players who can safely use hand sanitizer).

15. Signs and Messages

- Post signs in highly visible locations (e.g., at entrances, exits and in restrooms) that promote everyday protective measures and describe how to stop the spread of germs such as by properly washing hands and properly wearing a cloth face covering.
- Broadcast regular announcements on public announcement (PA) system
- Include COVID-19 prevention messages (for example, videos) about behaviors that prevent spread of COVID-19 when communicating with staff, volunteers, officials, and families. This could include links, videos, and prevention messages in emails on organization websites and through the team and league's social media accounts (Centers for Disease Control and Prevention, 2020).

16. Maintaining Healthy Environments

- Clean and disinfect frequently touched surfaces on the field, court or play surface at least daily, or between uses as much as possible.
- Use of shared objects and equipment (e.g., balls, bats, gymnastics equipment) should be limited or cleaned between use by each individual if possible.

- Develop a schedule for increased routine cleaning and disinfection.
- Ensure safe and correct use and storage of disinfectants, including storing products securely away from children.
- Identify an adult staff member to ensure proper cleaning and disinfection of objects and equipment, particularly for any shared equipment or frequently touched surfaces.
- Cleaning products should not be used near children and staff should ensure that there is adequate ventilation when using these products to prevent children or themselves from inhaling toxic fumes.
- Use gloves when removing garbage bags or handling and disposing of trash.
- Wash hands after removing gloves (Covid-19 Sports Guidance for Youth and Adults-Minnesota,2020)

17. Shared Objects

- Discourage sharing of items that are difficult to clean, sanitize, or disinfect. Do not let players share towels, clothing, or other items they use to wipe their faces or hands. If possible, sports authorities should make provision for these.
- Make sure there are adequate supplies of shared items to minimize sharing of equipment to the extent possible (e.g., protective gear, balls, bats, water bottles); otherwise, limit use of supplies and equipment to one group of players at a time, clean and disinfect between use.
 - Keep each player's belongings separated from others' and in individually labeled containers, bags, or areas.
 - If food is offered at any event, have pre-packaged boxes or bags for each attendee instead of a buffet or family-style meal.
 - Avoid sharing food and utensils.
 - Offer hand sanitizer or encourage hand washing.

18. Ensure Adequate Ventilation

- If playing inside, ensure ventilation systems or fans operate properly to ensure circulation of outdoor air as much as possible, for example by opening windows and doors as lack of air shortens the time for respiratory drop-lets to be removed. This is essential to prevent bacterial and microbial growth; the relative humidity should not exceed 60%.
- However, do not open windows and doors if doing so poses a safety or health risk (e.g., risk of falling or triggering asthma symptoms) to players or others using the facility.

19. Physical Barriers and Guides (Bumbaca, 2020)

- Provide physical guides, such as signs and tape on floors or playing fields, to make sure that coaches and players remain at least 6 feet apart.

20. Communal Spaces

- Close shared spaces such as locker rooms, if possible; otherwise, stagger use and clean and disinfect between use.
- Limit the number of players sitting in confined player seating areas (e.g., dugouts) by allowing players to spread out into spectator areas if more space is available (e.g., if spectators are not allowed).

21. Protections for Staff and Players at Higher Risk for Severe Illness from COVID-19

- Offer options for individuals at higher risk of severe illness from COVID-19 that limit exposure risk (such as virtual coaching and in-home drills).

- Limit youth sports participation to staff and youth who live in the local geographic area (e.g., community, city, town, or county) to reduce risk of spread from areas with higher levels of COVID-19 (Campbell, 2020).

22. Regulatory Awareness

- Be aware of National and State regulatory agency policies related to group gatherings to determine if events can be held.

23. Identifying Small Groups and Keeping them Together (Co-horting)

- Keep players together in small groups with dedicated coaches or staff, and make sure that each group of players and coach avoid mixing with other groups as much as possible.
- Teams might consider having the same group of players stay with the same coach or having the same group of players rotate among coaches.
- Consider staging within-team scrimmages instead of playing games with other teams to minimize exposure among players and teams.

24. Gatherings, Spectators, and Travel

- Avoid group events such as games, competitions, or social gatherings, where spacing of at least 6 feet between people cannot be maintained.
- Limit any nonessential visitors, spectators, volunteers, and activities involving external groups or organizations as much as possible especially with individuals not from the local geographic area (e.g., community, town, city, or county).
- Avoid activities and events such as off-site competitions or excursions (e.g., watching a professional team competes).

25. Leave (Time Off) Policies

- Implement flexible sick leave policies and practices for coaches, officials, and staff that enable employees to stay home when they are sick, have been exposed, or **caring for someone who is sick**.
 - Examine and revise policies for leave, remote working and employee compensation.
 - Leave policies should be flexible and not be punitive to people for taking time off and should allow sick employees to stay home and away from co-workers.
 - Leave policies should also account for employees who need to stay home with their children if there are schools or childcare closures, or to care for sick family members.
- Develop **policies for return-to-play** after COVID-19 illness. NCDC's criteria to discontinue home isolation and quarantine can inform these policies.

26. Back-up Staffing Plan, Coach and Staff Training

- Monitor absenteeism of coaches and officials, cross-train staff and create a roster of trained back-up personnel.
- Train coaches, officials, and staff on all safety protocols.
- Conduct training virtually, or ensure that social distancing is maintained during training.

27. Recognize Signs and Symptoms

- If feasible, conduct daily health checks (e.g., symptom checking) of coaches, officials, staff, and players safely and respectfully, and in accordance with any applicable privacy and confidentiality laws and regulations (Campbell, 2020).

28. Sharing Facilities

- Encourage any organizations that share or use the Lagos State Sports Commission's facilities to also follow these considerations.

29. Support Coping and Resilience

- Encourage employees to take breaks from watching, reading, or listening to news stories, including social media if they are feeling overwhelmed or distressed.
- Promote healthy eating, exercising, getting sleep and finding time to unwind.
- Encourage employees to talk with people they trust about their concerns and how they are feeling (Covid-19 and Australia Sporting Activity (2020)).

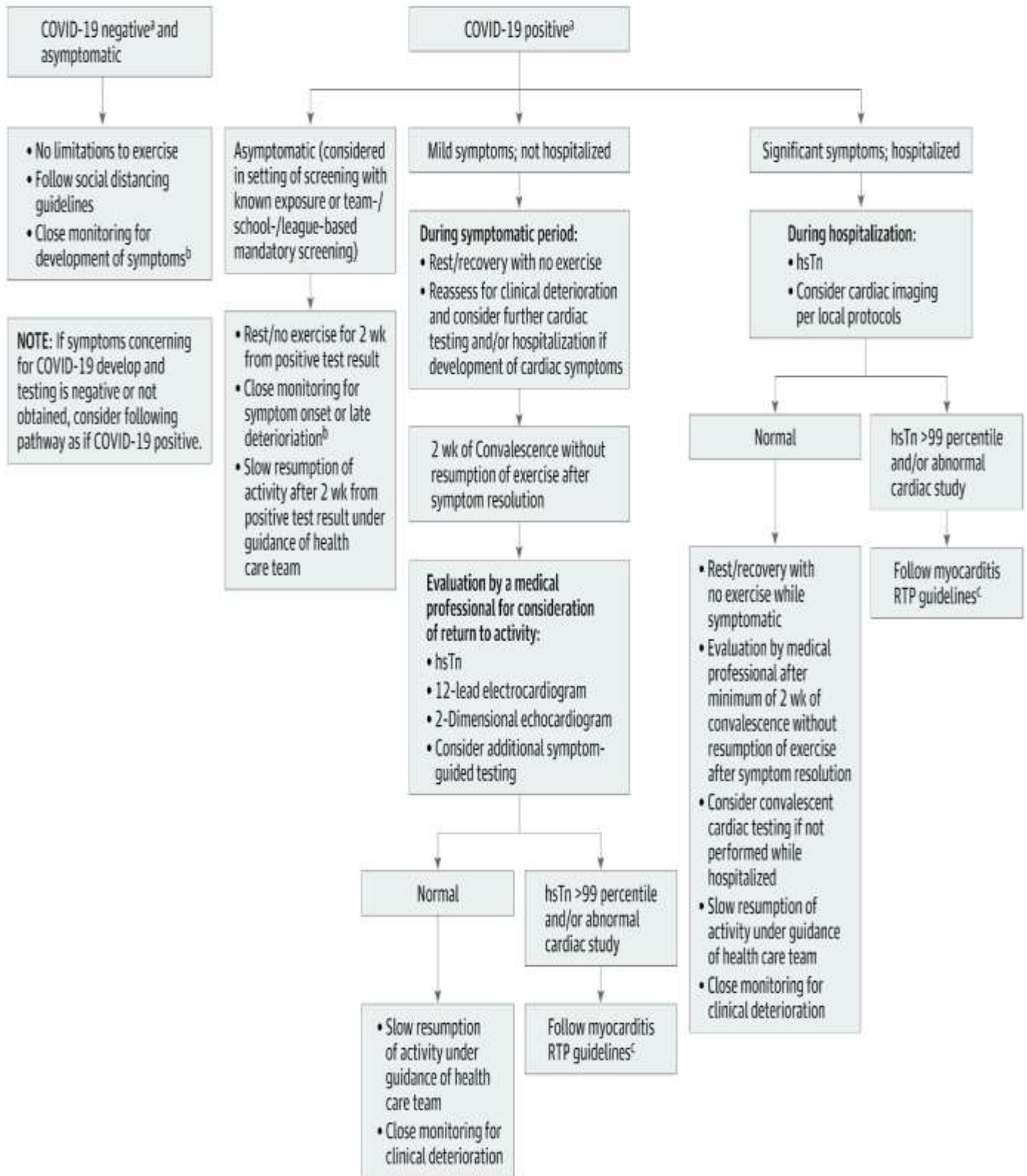
30. Advise Sick Individuals of Home Isolation Criteria

- Sick coaches, staff members, umpires/officials, or players should not return until they have met Nigeria Centre for Disease Control's (NCDC) criteria to discontinue home isolation.
- Make sure that coaches, staff, officials, players and families know that sick individuals should not come to the office or attend any sports activity and that they should notify officials (e.g., the COVID-19 point of contact) if they (staff) or their child (families) become sick with COVID-19 symptoms, test positive for COVID-19, or have been exposed to someone with COVID-19 symptoms or a confirmed or suspected case.
- Immediately separate coaches, staff, officials, and players with COVID-19 symptoms (i.e., fever, cough, shortness of breath) at any sports activity. Individuals who are sick should go home or to a healthcare facility, depending on how severe their symptoms are, and follow NCDC guidance for caring for one-self and others who are sick.
- Individuals who have had close contact with a person who has symptoms should be separated and sent home as well, and follow NCDC guidance for community-related exposure.
- If symptoms develop, individuals and families should follow NCDC guidance for caring for one-self and others who are sick.
- Establish procedures for safely transporting of anyone who is sick to their home or to a healthcare facility. If you are calling an ambulance or bringing someone to the hospital, try to call first to alert them that the person may have COVID-19.

31. Clean and Disinfect

- Close off areas used by a sick person and do not use these areas until after cleaning and disinfecting them (for outdoor areas, this includes surfaces or shared objects in the area, if applicable).
- Wait at least 24 hours before cleaning and disinfecting. If 24 hours is not feasible, wait as long as possible.
- Ensure safe and correct use and storage cleaning and disinfection products, including storing them securely away from children (Dudden & Marks, 2020)

Table 4: Covid-19 Status and Guide Chart



Source: (Covid-19 & Australia Sporting Activity (2020).C-19

CONCLUSION

The novel virus Covid-19 which is a Pandemic across the globe according to the Centers for Disease Control and Prevention (CDC), COVID-19 is a viral illness that can spread from person to person with close physical contact coming into contact with surfaces with the virus on it and from respiratory droplets when an infected person coughs, sneezes, or talks which is not looking like vanishing anytime soon.

In view of this reality, there is critical need for widespread antigen testing development and dissemination of antibody testing and ultimately vaccination to prevent disease. These important public health objectives coupled with rigorous surveillance of long-term clinical outcomes among athletes' and officials will be required to ensure the safe global resurrection of a thriving sport and athletic industry (National Collegiate Athletics' Association, 2020).

Recommendations

Against the background of the foregoing, it is hereby recommended that the following precautions should be taking into consideration before the commencement of Sporting activities in the Nigeria:

- Opening of the Sports Facilities starting with the identified low, moderate and high risk sports with proper adherence to precautions as outlined above;
- Arrangements should be made for athletes', coaches and other members of staff to be evaluated or tested for COVID-19 before commencement of sporting activities;
- Identifying individuals with possible infection by screening everyone at the venue entrances daily for signs and symptoms (including temperature checks) of COVID-19;
- Having designated officer (e.g., sports association secretaries, sports association coordinators, sports research and records officers, security and medical personnel) observe athletes, coaches and spectators at the venue for signs or symptoms of COVID-19;
- Development of training safety risk factors schedule by Technical Directorate following periods of inactivity of athletes' as they will be vulnerable to exertional injuries. The document will serve as a guide to coaches regarding strength and conditioning training decisions with athletes';
- Spatial Training activities.

REFERENCES

- Bumbaca, C. (2020) Nike releases new campaign to promote social distancing amid coronavirus pandemic. USA Today. <https://www.usatoday.com/story/sports/2020/03/21/coronavirus-nike-social-distancing-ad-campaign-tiger-woods/2891005001/>.
- Campbell, J. P. (2020). Debunking the myth of exercise-induced immune suppression: redefining the impact of exercise on immunological health across the lifespan. *Front Immunol*, 9, 648.
- Centers for Disease Control and Prevention (2020) Consideration of Youth Sport. United States of America. <https://www.cdc.gov/community>.

Covid-19 Sports Guidance for Youth and Adults-Minnesota (2020). United States of America.
<https://www.health.state.mn.us>.

Covid-19 and Australia Sporting Activity (2020). Australian Institute of Sport. Victorian
Department of Health, Australia <https://www.ais.gov.au/covid-19>.

Dudden, A., & Marks, A. (2020) South Korea took rapid, intrusive measures against Covid-19—
and they worked. The Guardian.
<https://www.theguardian.com/commentisfree/2020/mar/20/south-korea-rapid-intrusive-measures-covid-19>.

National Collegiate Athletics Association (2020). Sport Science Institute updates re-socialization
guidelines. Indianapolis, United States of America.

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