Return to Sports and Exercise during the COVID-19 Pandemic: Guidance for High School and Collegiate Athletic Programs

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The COVID-19 pandemic has sparked dramatic changes across all aspects of our daily lives. The combination of lifestyle modifications and potential comorbidities associated with COVID-19 also presents important, athlete specific, health and safety risks as return to sport plans emerge. While it is clear that transition periods have a higher risk for catastrophic sport injury,[1–6] some of the factors that place athletes at higher risk during these periods may be amplified as a result of social distancing measures. These risk factors may also be amplified at various levels – so even athletes within the same team may have a spectrum of risk profiles. As plans for a return to organized sport begin, and over 10 million high school and college athletes emerge from this unprecedented period,[7,8] healthcare providers and administrators must give greater consideration for how to reduce risk while re-introducing sport.

The purpose of this document is to create an overarching consensus statement across high school and collegiate athletics to address return to physical activity considerations during or immediately following physical distancing. This document is meant to serve as a resource, providing a streamlined approach that sport organizations and those involved in high school and college sport programs (i.e. athletes, coaches, strength and conditioning coaches, athletic trainers, athletic directors, and physicians) may use. It is important to remember that organizations *must* always refer to federal and state authorities, departments of public health, and sport specific organizational governing bodies when considering health and safety policies and procedures. The recommendations provided in this document are based on published best practices and hold value for prioritizing athlete health and safety. However, in the absence of this evidence, expert opinion is utilized. It is acknowledged that resources across and between high school and collegiate programs differ, therefore the application of these recommendations must be considered within the context of

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the sport setting, compliance and individual school resources. It should also be noted that some of these recommendations may be accomplished over a timeline and not at the immediate resumption of sport activity. Similarly, these recommendations are written to apply across all sport seasons and are not limited to only fall athletes.

The specific objectives of this document are as follows:

1. Discuss how and why physical distancing presents added and unique risk to athletes.
2. Identify various risk profiles.
3. Identify how to mitigate risk with tools and resources already available.
4. Discuss considerations for interruptions to normal seasons, and when this document may be implemented.
5. Specifically address the following topics:
    - Pre-participations evaluations
    - Return to physical activity/conditioning
    - Heat acclimatization
    - Injury prevention (preventative training programs)
    - Education for related items

This document is not intended to:

1. Provide a recovery plan specific for COVID-19 patients.
2. Discuss administrative considerations and practices.
3. Discuss cleaning procedures or personal protection practices.
4. Provide detailed discussion of screening, testing, isolating and contact tracing for sport programs.

Preparticipation Physical Evaluation

Physical Evaluations

The preparticipation physical evaluation (PPEval) is considered best practice for identifying potentially serious medical conditions which may lead to injury or illness during athletic competition. The National Federation of State High School Associations (NFHS) and National Collegiate Athletic Association (NCAA) recommend a history and physical evaluation prior to athletic participation. All state high school athletic associations require a PPEval, but the scope, medical providers approved to conduct the exam, and required time interval between exams vary.

During the COVID-19 pandemic, many healthcare offices have significantly scaled back or canceled routine well care visits, including PPEval appointments. As healthcare offices slowly re-open in the coming months, there is a concern that the demand for regular routine care and maintenance of chronic medical conditions may overburden healthcare offices, making it difficult, or impossible, for athletes to obtain a PPEval in a timely manner. Given the unprecedented loss of employment nationwide, many young athletes may also lose health insurance benefits and see delays in primary care provider assignment when or if they enroll in a state Medicaid program.

While the recommendations below are in agreement with the NFHS Statement on PPE's and Athletics Participation (released in April 2020),[9] the recommendations are also generalizable to the college setting across all levels (Junior College, NCAA DIII, DII, DI, and NAIA).

As such, we recommend the following minimum recommendations for both high school and collegiate athletes:

1) Be familiar with state and local laws as well as organizational policy requirements for PPEvals.
2) Discuss with local health departments and state medical associations prior to making a final decision on how best to approach this issue.
3) If needed, and absent indications to the contrary, a one-year extension should be considered for any student who has a PPEval that "expires" before or during the 2020-21 academic year.
4) Access to the PPEval should be assessed at a local level as much as is organizationally possible. When the opportunity for an in-office encounter is unavailable, an interim history update and a review of any chronic medical conditions with an athletic trainer or a telemedicine visit with a primary care provider should be strongly encouraged.
5) Athletes who have not had a PPEval, such as incoming freshmen and students who are first time participants in athletics, or athletes who did not have a PPEval during the 2019-2020 academic year, should still be required to have a PPEval prior to athletic participation. Therefore, athletes, parents and guardians should be informed of the need to obtain a PPEval prior to the start of the 2020-21 academic year and should schedule the appointment with their primary care provider as soon as possible.

Past Medical History

Severe acute respiratory syndrome coronavirus 2 *(*SARS-CoV-2), the novel coronavirus that causes COVID-19, presents unique health issues that should be considered prior to a return to sports and exercise. While the vast majority of young persons afflicted with the coronavirus have mild symptoms or remain asymptomatic, rarely the infection can cause direct injury or inflammation to the heart or kidneys. Concerns for cardiac complications from COVID-19 arise from data in the sickest of hospitalized patients, and evidence on the prevalence and risks of myocardial injury during more mild illness remains limited. Likewise, acute kidney injury has been seen in critically ill patients, affecting nearly one-third of patients requiring intensive care. Nonetheless, the sports medicine community believes that patients with prior COVID-19 should undergo a medical assessment before returning to exercise.

1) We recommend that every student-athlete with a prior diagnosis of COVID-19, symptoms suggestive of COVID-19, or a "close exposure" to someone with COVID-19 should contact their medical provider to determine if further evaluation is warranted prior to returning to sports. A close exposure is defined as having a household member with COVID-19, prolonged exposure (>10 minutes) within 6 feet of an individual with confirmed COVID-19, direct exposure to infectious secretions (e.g., being coughed on) or direct physical contact during sports from an individual with COVID-19.
2) A medical evaluation is **strongly recommended** for student-athletes with a confirmed diagnosis of COVID-19.
3) Those at greater risk for developing severe COVID-19 disease or complications should undergo an informed decision-making process with their medical provider before a return to sports as exposure to teammates and opponents may increase their risk of becoming infected. Individuals at higher risk of severe COVID-19 include those with a serious heart condition, uncontrolled or moderate to severe asthma, chronic lung disease, diabetes, obesity, pre-existing kidney disease, or a weakened immune system.
    a) Although the Centers for Disease Control and Prevention states that patients with these conditions may be at greater risk for more severe disease, there are limited published data in young athletes to support this determination at this time.
4) All athletes with prior COVID-19 should be screened for ongoing symptoms of chest pain/pressure with exercise, difficulty breathing or dizziness with exercise, or decreased exercise tolerance.
5) Additional cardiac testing, such as an electrocardiogram (ECG), cardiac biomarkers (i.e. hs-troponin), and an echocardiogram may be indicated depending on the severity of past COVID-19 illness, ongoing symptoms, or clinical suspicion. Specific medical guidance can be found from a publication by Baggish et al.[10]
6) Tests to evaluate kidney function (i.e. urinalysis, serum creatinine) should be considered to evaluate kidney function after recovery from COVID-19.
7) Athletes with ongoing respiratory symptoms associated with COVID-19 should undergo cardiac and pulmonary testing as guided by a physician.
8) Secondary schools and collegiate athletic programs should consider a supplemental questionnaire addressing COVID-19 specific medical issues (see Appendix A). Positive responses from this questionnaire should trigger an evaluation by a medical provider prior to participation in sports.

PPEval Resources:

1. NFHS Statement on PPE and Athletic Participation: Ramifications of the COVID-19 Pandemic
2. American Academy of Pediatrics Preparticipation Physical Evaluation (PPE)
3. National Athletic Trainers' Association Position Statement: Preparticipation Physical Examinations and Disqualifying Conditions
4. AMSSM Position Statement on Cardiovascular Preparticipation Screening in Athletes: Current evidence, knowledge gaps, recommendations and future directions
5. The resurgence of sport in the wake of COVID-19: cardiac considerations in competitive athletes

Return to Physical Activity

Exercise Adaptations

The COVID-19 crisis and physical distancing policies have resulted in high school and college athletes being separated from their normal training facilities and workout routines for several months. Because of this crisis, athletes will be returning with a variety of conditioning levels, creating the potential for "a perfect storm" of detrained athletes returning to shorter training preparation time.

In June 2019, a joint position paper was published in the Strength and Conditioning Journal entitled "CSCCa and NSCA Joint Consensus Guidelines for Transition Periods: Safe Return to Training Following Inactivity."[11] These guidelines apply to those athletes with **any period of inactivity of two weeks or greater**. If a two-week break or longer occurs after the resumption of training, the recommendation is to re-start the guidelines in the 2019 consensus document, which may even need to be done multiple times. While these recommendations were written specifically for the collegiate athlete, many of these recommendations should be considered for the high school athlete when possible. It is recommended that coordination occurs between the coach, strength and conditioning staff and athletic trainer to be sure that training is developmentally appropriate and not superfluous or excessive.

As such, we recommend the following:

1) Register your written training programs with athletics administrators.
    a) Prior to restarting training workouts, coaches should record a written strength and conditioning program. This record should adhere to established recommendations of training protocols within the field of strength and conditioning by organizations such as the Collegiate Strength and Conditioning Coaches Association (CSCCa), the National Strength and Conditioning Association (NSCA), the NFHS, the individual state high school athletic association, and the NCAA, and a copy of the conditioning program should be held on file by an appropriate member of the athletics administration.
    b) This program should reflect the upper limit for exercise intensity and volume. The "upper limit"

workout would be the highest level of intensity and volume an athlete would be able to tolerate when in peak condition. This workout will be utilized to determine the maximum allowable limits using the 50/30/20/10 and F.I.T. (Frequency, Intensity, Time of Weight Training) rules.

2) Follow the 50/30/20/10 Rule[11]
   a) The 50/30/20/10 Rule for athletes is a testing protocol, and a daily and weekly conditioning protocol.
   b) College Student-Athletes
      i) It is recommended that weekly conditioning volume be reduced by 50% from the uppermost volume on file in week 1 with a 1:4 or greater Work to Rest Ratio (W:R) and 30% in week 2 with a 1:3 or greater W:R. Based on the protocol, the returning athletes can then return to normal training volumes and intensities based upon the professional judgment of the coach. For athletes who are new to the program, it is recommended that a minimum of a 20%, and 10% reduction takes place in weeks 3 and 4, respectively.
      ii) If conditioning testing is completed for returning athletes, then the workload (whether through intensity, volume, rest time, or a combination) should be reduced by 20% in the first week and 10% in the second week. Because of the reduction in workload, there is no mandate to change the W:R for these testing sessions.
      iii) For new athletes, conditioning testing must be completed on the first day of return to training and should be performed at 50% of the standard volume of the test on file with the administrator, using 1:4 or greater W:R. Although not mandatory, testing may be repeated, but should follow the rule for conditioning activities, with a 30/20/10% weekly reduction in volume at standard intensities and rest times.
   c) High School Student-Athletes
      i) High school programs might use training regimens that are different from collegiate programs, but the recommendation is being made that a reduction be applied to exercise programs in order to create a phased re-introduction of physical activity. Because a consensus statement on transition periods for high school athletes has not been published, the 50/30/20/10 rule provides the best recommendations available to guide exercise modifications within the high school setting. These recommendations would allow the re-introduction of exercise over the first 4 weeks based on reductions from the normal exercise load/plan: Week 1 a 50% reduction, Week 2 a 30% reduction, Week 3 a 20% reduction and Week 4 a 10% reduction in conditioning volume.
      ii) For that reason, the recommendation is that in week one of training, if a conditioning test is done, a reduction of 50% should be applied to the chosen measuring tool with a W:R of 1:4 or greater. This should remain consistent , and the same is true for all daily and weekly conditioning programs. This is a recommended "ceiling". If at any time prior to achieving the 50% volume prescribed athletes begin to struggle, they should be removed from the drill. In Week 2 the volume, whether for testing or general conditioning, is reduced by 30% with a 1:3 W:R or greater; Week 3 by 20% with no added accommodation for work rest; and week 4 by 10% with no added accommodations for work rest.
      iii) Athletes involved in multiple sports should consider not participating in multiple sport practices or conditioning sessions during the pre-season or should reduce the workload in each of the sports practices or conditioning sessions by at least 50%.

3) Follow The F.I.T. Rule (Frequency, Intensity, Time of Weight Training)[11]
   a) The F.I.T. Rule provides guidance for phasing in weight training and should be used following a period of active rest or periods of minimal training (See Appendix B).
   b) The F.I.T. Rule has been described in the Joint Consensus Document for collegiate athletics. Because a consensus statement on transition periods for high school athletes has not been published, the F.I.T. Rule provides the best recommendations available to guide weight training modifications within the high school setting.
   c) The F.I.T. rule is designed to ensure that frequency, intensity relative volume (IRV), and time of rest interval are appropriately administered to minimize the chance of severe muscle damage during weight training.
   d) Frequency is defined as the number of training sessions completed per week for a specific muscle group or movement type. For example, the student-athlete might train a total of 5 days in the week, but only train the lower body for 3 days, so the frequency for lower-body movements equals 3. Following a period of inactivity, it is recommended that frequency not exceed 3 days in the first week and no more than 4 days in the second week. IRV is a derivation of volume load that includes the %1RM (one repetition maximum) and is calculated with the following equation: Sets x Reps x % of 1RM (as a decimal) = IRV

i) Example: 3 sets x 10 reps x 0.50 (which would be 50% 1RM) = 15 IRV

e) The recommendation is to keep IRV between 11 – 30 with a W:R of 1:4 or greater the first week and 1:3 or greater the second week. IRVs of greater than 30 are contraindicated in the first 2 weeks following a period of inactivity in addition to coaches' own professional judgment regarding limitations on the return to training program.

f) Examples and specific usage of the F.I.T. principle can be found within the 2019 CSCCa and NSCA Joint Consensus Guidelines for Transition Periods: Safe Return to Training Following Inactivity.[11]

Exercise Adaptations Resources:

1. CSCCa and NSCA Joint Consensus Guidelines for Transition Periods: Safe Return to Training Following Inactivity
2. National Athletic Trainers' Association – Key Facts about Detraining

Heat Acclimatization

Exercising in the heat imposes significant strain on the cardiovascular system to simultaneously support thermoregulatory and metabolic demands, thus presenting a serious challenge to body core temperature regulation. Routine exposure to exercise in the heat elicits physiological adaptations that gradually improve exercise heat tolerance. As such, a proper heat acclimatization program is essential to reduce the risk of exertional heat illness, death from exertional heatstroke, and death from other causes such as sudden cardiac and exertional sickling that are exacerbated by heat intolerance. Established heat acclimatization guidelines are clearly outlined and take into account summer and pre-season scheduling, however the timing of a return to activity during or following social distancing may alter the feasibility of these guidelines.

Thus, consider the following to properly heat acclimatize athletes:

1) Time course of adaptations
   a) An important consideration is that fitness acclimatization may overlap and even enhance/jumpstart the heat acclimatization process.
   b) Once physical fitness is established (see exercise adaptations section), gradually increase the duration and intensity of exercise in the heat over a **minimum** of 7 days, with full adaptations occurring at 10-14 days (see Appendix C). Repeated maximal physical efforts over a prolonged period and competitive play should be avoided until both fitness and heat acclimatization are achieved.
   c) While some adaptations can be obtained from exposure to hot environments without exercise as well as from exercise without heat exposure, these approaches do not maximize the adaptations.
   d) Organizations should consider modifying regular season start dates and/or shortening the length of the regular season to allow sufficient time for heat acclimatization to occur.
   e) If training is paused for more than 5-7 days due to "stay at home orders" or due to individual/team quarantines, schools should consider restarting or extending the heat acclimatization process prior to the resumption of activity.
2) Hydration considerations
   a) Hydration plays an important role in maintenance of thermoregulatory function and can influence the risk of exertional heat illness. Therefore, it is critical to allow for frequent and open access to cool, palatable fluids to promote proper hydration in hot weather.[12–14]
   b) Hydration status should be monitored daily via pre-practice body mass, urine concentration, and thirst. See GSSI Sport Science Exchange: Hydration Assessment of Athletes or NATA Position Statement: Fluid Replacement[15] for the Physically Active for more information.
   c) To reduce the risk of viral transmission, the sharing of bottles and water sources should be avoided. All efforts should be made to have individualized and labeled bottles for each athlete. Good hygiene practices (e.g., hand washing) and personal protective equipment (i.e. gloves, masks) should be used when filling bottles for athletes. Heightened awareness should be taken to support access to individualized fluids containers.
   d) Other means of fluid delivery besides individual bottles/containers (like hoses, PVC pipes, mass drinking stations etc.) should not be utilized as individual drinking stations.
   e) If proper access to fluids during exercise in the heat is not possible due to COVID-19 transmission concerns, sessions should be modified or cancelled.
3) Modifying exercise based on environmental conditions
   a) During and after the heat acclimatization period, modification or cancellation of physical activity (consistent with organizational, state, and regional policies) based on routine measurements of environmental conditions (ideally via wet-bulb globe temperature per best practices) is strongly recommended.[4,16]
   b) As environmental heat stress increases, modifications, such as the removal of unnecessary equipment or clothing, increased frequency of rest breaks, and access to hydration, or rescheduling the session to an earlier/later (i.e., cooler) time of the day should be implemented.[4,16–18]

Heat Acclimatization Resources:

1. 2013-2014 NCAA Sports Medicine Handbook
2. Korey Stringer Institute Heat and Hydration
3. National Athletic Trainers' Association: Preseason Heat Acclimatization Guidelines for Secondary School Athletics
4. National Athletic Trainers' Association – Heat Acclimatization
5. National Federation of State High School Associations – Heat Acclimatization and Heat Illness Prevention Position Statement
6. GSSI Sport Science Exchange: Hydration Assessment of Athletes
7. NATA Position Statement: Fluid Replacement for the Physically Active

Injury Prevention

There is an increased risk of musculoskeletal injury following a prolonged period of physical inactivity. Given lower extremity injuries make up approximately 66% of all sports injuries, preventative training programs (also known as injury prevention programs, multicomponent training programs) may reduce the likelihood of these injuries during sport.[19] Preventative training programs that require more than 1 type of exercise (e.g., strength, balance, agility, flexibility, plyometrics) are more effective at reducing injuries.

The following guidelines are recommended to reduce lower extremity injuries:

1) Preventative training programs:
   a) Should include exercises in at least 3 of the following categories: strength, balance, plyometrics, agility, and flexibility.[19]
   b) Should be performed at least 2-3 times per week throughout the pre-season and in-season.[19]
   c) Are easily implemented to replace, or in conjunction with, a team's warm-up program or strength and conditioning program. The programs are typically 10-15 minutes and dynamic in nature.[19]
2) It is important to note that the pre-participation physical evaluation may also assist with injury prevention (See Preparticipation Physical Evaluation section).

Injury Prevention Resources:

1. National Athletic Trainers' Association Position Statement: Prevention of Anterior Cruciate Ligament Injury
2. Stanford Orthopedics Sports Medicine

Education

It is important to remember that it is the responsibility of sport organizations to interpret these recommendations and apply what is relevant and feasible to their setting. Additionally, an educational plan should be in place to ensure a timely, streamlined communication of the policies and procedures that should be in place.

The following considerations are recommended to achieve this:

1) Education of all entities involved. This may include (but not limited to): coaches, athletes, administrators, parents/guardians, healthcare team, maintenance staff, etc.
2) Designate a point person to disseminate information pertaining to policies/procedures that should be disseminated/implemented.
3) Define targets/audience for the dissemination of this information.
4) Determine mode of information dissemination (email, conference call, video conference, etc.).
5) Determine timing of this information and future updates.
6) Recommendations and guidelines may be subject to change in response to an increased viral burden or other evolving situations.
7) Re-education and policy re-evaluation given developing circumstances.

Disclaimer

This document is intended to provide relevant practice parameters for high school and collegiate sport programs to use when performing their responsibilities in providing services to athletes or other participants. The recommendations presented here are based on published scientific studies, position statements, inter-association task force documents, personal communications, and a consensus of expert views available based on the time of publication. However, this information is not a substitute for individualized judgment or independent professional advice.

Neither the Korey Stringer Institute/The University of Connecticut, nor the contributors to this project assume any duty owed to third parties by those reading, interpreting, or implementing this information. When rendering services to third parties, these recommendations cannot be adopted for use with all participants without exercising independent judgment and decision making.

Sport programs using this information are encouraged to seek and obtain advice from licensed healthcare professionals responsible for the health and safety of their programs (e.g. athletic trainer, team physician, school nurse etc).

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Summary Points

- **While it is clear that transition periods have a higher risk for catastrophic sport injury,[1–3] some of the factors that place athletes at higher risk during these periods may be amplified as a result of social distancing measures.**
- **PPEs may be difficult to coordinate or obtain, and flexibility may be called for, such as a one-year extension for any student who has a PPEval that "expires" before or during the 2020-21 academic year.**
    - Every student-athlete with a prior diagnosis of COVID-19, symptoms suggestive of COVID-19, or a "close exposure" to someone with COVID-19 should contact their medical provider to determine if further evaluation is warranted prior to returning to sports.
- **Exercise programs will need to be modified upon returning from any period of inactivity of two weeks or greater. The 50/30/20/10 rule and F.I.T. rule are the best guidelines for achieving this.**
- **Once physical fitness is established, gradually increase the duration and intensity of exercise in the heat over a minimum of 7 days to establish heat acclimatization.**
- **Preventative Training Programs should include three of the following: strength, balance, plyometrics, agility, and flexibility,[19] and be performed at least 2-3 times per week[19] and last ~ 10-15 minutes.**

Additional Resources

1) Pre-Participation Exam:
   i) NFHS Statement on PPE and Athletic Participation: Ramifications of the COVID-19 Pandemic
   ii) American Academy of Pediatrics Preparticipation Physical Evaluation (PPE)
   iii) National Athletic Trainers' Association Position Statement: Preparticipation Physical Examinations and Disqualifying Conditions
   iv) AMSSM Position Statement on Cardiovascular Preparticipation Screening in Athletes: Current evidence, knowledge gaps, recommendations and future directions
   v) The resurgence of sport in the wake of COVID-19: cardiac considerations in competitive athletes
2) Exercise Adaptations:
   i) CSCCa and NSCA Joint Consensus Guidelines for Transition Periods: Safe Return to Training Following Inactivity
   ii) NSCA Strength and Conditioning Professional Standards and Guidelines
   iii) National Athletic Trainers' Association – Key Facts about Detraining
3) Heat Acclimatization:
   i) National Athletic Trainers' Association: Preseason Heat Acclimatization Guidelines for Secondary School Athletics
   ii) National Athletic Trainers' Association – Heat Acclimatization
   iii) 2013-2014 NCAA Sports Medicine Handbook
   iv) KSI: Heat and Hydration
   v) National Federation of State High School Associations – Heat Acclimatization and Heat Illness Prevention Position Statement
   vi) GSSI Sport Science Exchange: Hydration Assessment of Athletes
   vii) National Athletic Trainers' Association Position Statement: Fluid Replacement for Athletes
4) Injury Prevention Resources:
   i) National Athletic Trainers' Association Position Statement: Prevention of Anterior Cruciate Ligament Injury
   ii) Stanford Orthopedics Sports Medicine
5) Additional Resources:
   i) NFHS Guidance for Opening Up High School Athletics and Activities
   ii) USOPC Youth Sport Return to Play Report (Aspen Project Play.org)
   iii) Preventing catastrophic injury and death in collegiate athletes: interassociation recommendations endorsed by 13 medical and sports medicine organizations
   iv) The Inter-Association Task Force for Preventing Sudden Death in Secondary School Athletics Programs: Best-Practices Recommendations
   v) The Inter-Association Task Force for Preventing Sudden Death in Collegiate Conditioning Sessions: Best Practices Recommendations
   vi) Association of Chief Executives for Sport (ACES): Return to Play
   vii) NSCA COVID-19 Return to Training – Guidance on Safe Return to Training for Athletes
   viii) National Center for Catastrophic Sport Injury Research (NCCSIR)
   ix) U.S. Soccer "PLAY ON"
   x) World Health Organization. Considerations for sports federations/sports event organizers when planning recommendations for Mass Gatherings in the context of COVID-19: interim guidance.
   xi) World Health Organization. Guidance for the use of the WHO Mass Gatherings Sports: addendum: risk assessment tools in the context of COVID-19.

Appendix A
COVID-19 Supplemental Questionnaire

1. Have you had any of the following symptoms in the past 2 weeks?
    a. Fever
    b. Cough
    c. Shortness of breath or difficulty breathing
    d. Shaking chills
    e. Chest pain, pressure, or tightness
    f. Fatigue or difficulty with exercise
    g. Loss of taste or smell
    h. Persistent muscle aches or pains
    i. Sore throat
    j. Nausea, vomiting, or diarrhea

2. Do you have a family or household member with current or past COVID-19?

3. Do you have moderate to severe asthma, a heart condition, diabetes, pre-existing kidney disease, or a weakened immune system?

4. Have you been diagnosed or tested positive for COVID-19 infection?

5. If you had COVID-19:
    a. During the infection did you suffer from chest pain, pressure, tightness or heaviness, or experience difficulty breathing or unusual shortness of breath?
    b. Since the infection, have you had new chest pain or pressure with exercise, new shortness of breath with exercise, or decreased exercise tolerance?

Appendix B

Examples of Frequently Used High School Football Conditioning Drills (a), Example Application of 50/30/20/10 Rule (b) and F.I.T. Rule (c)

Table 1a. Sampling of High School Football Conditioning Drills
(Collected from personal communication with various high school football strength & conditioning coaches within Arkansas, Kansas, Louisiana, Mississippi, Oklahoma, Texas)

Drill	Reps	Time in Seconds (Skill/Power/Linemen)	Rest
110's Drill	16	16/18/21	45
Staggered 110/100/90 Drill	16	16	45
Half Gasser Drill (Over & Back)	14	17/18/21	45
300 yd. Shuttles (25 yds.)	3	65/70/75	2:30
300 yd. Shuttles (50 yds.)	3	59/66/70	2:30
300 yd. Shuttles (50&Back/40&Back/30&Back/20&Back /10&Back	3	62/68/73	2:30
50 (25&Back)/40 (20&Back)/30 (15&Back) Drill	20	8/7/6	35/30/25

Table 1b. Example of the Application of 50/30/20/10 to the 110 Drill

New Athletes - 110 Drill			
Reduction	**Reps**	**Time**	**Rest**
Week 1 - 50%	50% = 8	16/18/20	64/72/80
Week 2 - 30%	30% = 11	16/18/20	48/54/60
Week 3 - 20%	20% = 13	16/18/20	45
Week 4 - 10%	10% = 14	16/18/20	45

Table 1c. Example Application of the F.I.T. Rule

Intensity relative volume (IRV) practical examples in the first 2 weeks after a transitional period					
Example	**Sets**	**Repetitions**	**% 1RM**	**IRV units**	**Range level**
1	3	12	0.65	23.4	Acceptable
2	5	10	0.60	30.0	Acceptable
3	5	8	0.70	28	Acceptable
4	8	5	0.75	30.0	Acceptable
5	10	10	0.50	50	Much too high
Includes warm-up sets.					
RM = repetition maximum.					

Reprinted with permission from: Caterisano A, Decker D, Snyder B, et al. CSCCa and NSCA Joint Consensus Guidelines for Transition Periods: Safe Return to Training Following Inactivity. *Strength and Conditioning Journal*. 2019;41(3):23.

Appendix C

High School (a) and NCAA (b) Preseason Heat Acclimatization Guidelines

Table 2a. High School Preseason Heat Acclimatization Guidelines

Area of Practice Modification	Practices 1-5		Practices 6-14
	Practices 1-2	Practices 3-5	
# of Practices Permitted Per Day	1		2, only every other day
Equipment	Helmets only	Helmets & Shoulder Pads	Full Equipment
Maximum Duration of Single Practice Session	3 hours		3 hours (a total maximum of 5 hours on double session days)
Permitted Walk Through Time (not included as practice time)	1 hour (but must be separated from practice for 3 continuous hours)		
Contact	No Contact	Contact only with blocking sleds/dummies	Full, 100% live contact drills

NOTE: warm-up, stretching, cool-down, conditioning, and weight-room activities are Included as part of practice time

Table 2b. NCAA Football Preseason Heat Acclimatization Guidelines

Area of Practice Modification	Practices 1-5			Practices 6+
	Practices 1-2	Practices 3-4	Practice 5	
# of Practices Permitted Per Day	1			>1, if not consecutive days with multiple practices
Maximum Duration of Single Practice Session	3 hours			3 hours on days with 1 practice
Equipment*	Helmets only	Helmets & Shoulder Pads	Full Pads Full Equipment	
Double Practice Days	None			No more than 5 total hours of on-field practice permitted - with at least 3 continuous hours between practices