

ONLINE TRAINING—RECOMMENDATIONS FOR IMPROVING FITNESS IN ATHLETES AND GENERAL POPULATION

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COVID-19 AND ITS EFFECTS ON THE SPORTS AND HEALTH SECTOR

2020 has been a difficult year; there is simply no denying this. Globally, the aviation, tourism, sports, and hospitality sectors have been affected the worst as a result of COVID-19, with some countries struggling more than others. From empty stadiums and disrupted schedules, to laid off coaches and frustrated athletes/clients, there is no aspect of the sports and fitness industry that has remained untouched by this pandemic (17). However, even amidst this doom and gloom, there are both obstacles and opportunities. In this article, personal trainers and strength and conditioning coaches will learn how Football Club of Mumbaikars, a leading soccer club based in Mumbai, India, has worked to maintain and even improved the fitness profile of its 18 – 21-year-old athletes using this online 11-week training protocol, and provide a template for how to apply this protocol to the general population.

THE UNIQUE POSITION AND RESPONSIBILITIES AS STRENGTH AND CONDITIONING COACHES

Roughly around the 15th of March, 2020, Football Club of Mumbaikars, among several other sports clubs and facilities, had to discontinue outdoor training operations in compliance with strict directives from the Government of India. As members of the strength and conditioning department, the author and his colleagues were entrusted with the responsibility of maintaining fitness for our soccer athletes across the following parameters:

1. Local Muscular Endurance

Soccer players must be able to perform a minimum number of repetitions for an exercise involving a particular group of muscles (15,18). This relates to the athlete's ability to run/sprint in multiple directions, with the intention of receiving passes, tackling opponents, or charging towards the goalpost to score, for a minimal duration of time in a competitive setting.

2. General Anaerobic Capacity

The players are required to display competence in general anaerobic capacity as well (2,6). Somewhat similar to the goal of local muscular endurance, whole-body anaerobic capacity is important to soccer athletes as they are required to move in multiple directions, executing different aspects of the play, for durations between 4.5 – 5.5 s at a time. These time durations co-relate with repeated sprint ability over average distances of 15 – 23 m (23).

3. Lower-Body Power

Soccer players are required to display explosive strength in general, and in the lower body in particular (12,13,24). This plays an important role in blocking attempts for a goal, jumping maximally to receive the ball mid-air, or attempting bicycle kick

goals. This was one of the highest priorities for the strength and conditioning staff due to the training circumstances. Although sprint speed is an important component in the soccer player's fitness development, since the athletes were being trained online under strict home confinement, specific sprint and acceleration drills were not conducted. Sprint speed, at least over short distances, is expected to improve as an indirect carryover from explosive-type lower-body training.

4. Flexibility

Although at first thought, flexibility and mobility may not come across as very important qualities for the soccer athlete, and they certainly will be more important for gymnasts or weightlifters; however, without these qualities they are prone to poor movement ability and risk of injury (3,9). Hence the strength and conditioning staff needed to address this aspect as well.

5. Psychological Preparedness

The mind drives the body and high levels of motivation are essential to all athletes, especially during times of crisis (8,21). Most sports facilities stopped outdoor operations, bringing the training of our athletes to a standstill, albeit temporarily. The management had rightly sensed that this would soon negatively impact the morale of the players and all coaching staff was asked to make it a priority to ensure motivation levels were high across different training sessions.

6. Nutrition and Body Composition (19)

Although none of the athletes were clinically underweight, many of them did need to put on some lean body mass. The strength and conditioning department was also charged with the responsibility of working with nutrition coaches and making sure appropriate calorie intakes and macronutrient ratios were being suggested to the players. The team had to strike a delicate balance between gaining muscle and avoiding too much fat gain since the activity levels were lower than general off-season training.

Since the athletes and coaches were confined to their residences, it was deemed largely unsafe to conduct any sort of agility- or running-based training and the club decided to wait until facilities were allowed to open up to conduct this training. The specific technical and tactical education and training of the athletes was to be maintained by dedicated coaches from the respective departments.

TRAINING APPROACH AND PROGRAM SPECIFICATIONS

Before proceeding to examine the training approach taken, a more detailed description of the group is presented. The athletes

were male, all aged between 18 – 21 years. They have had previous experience with general resistance training. They belong to different cities and interaction/training was delivered via the video conferencing app Zoom (©2020 Zoom Video Communications, Inc.). An 11-week strength and conditioning program was designed to maintain the fitness levels of the athletes as mentioned above. The exact training plan and testing data are presented along with this article.

The program was designed to address the goals stated above. The focus of training was themed as “whole-body general fitness, with 70% specific focus on lower body versus 30% on upper body.” The baseline testing was conducted in the second week of the program following some preliminary technique corrections. Intermediate testing was conducted at the end of the sixth week and peak performance testing was done at the end of the 10th week. Some of the fitness parameters have been quantitatively tested and represented, while other parameters have been assessed and recorded via subjective measures, such as rate of perceived exertion (RPE) scores (athletes had experience in the RPE reporting system). RPE is a scale with scores ranging from 1 – 10 in order of increasing levels of difficulty. This scale is often used to gauge and prescribe the level of intensity required for a set of a particular exercise or even a workout session. This is a subjective measure and requires prior experience on the part of the athlete and coach but has been shown to be effective in assessing the relative intensity of a given workout session or movement (7). An example RPE scale is presented in Figure 1.

Virtual coach-parent-athlete discussions were also periodically conducted to promote nutrition education, family support, and

athlete engagement. Finally, a brief overview of the program can be found below:

AN 11-WEEK FITNESS MAINTENANCE PROTOCOL (TABLE 1)

- Phases:** The total training cycle was divided into four blocks which progressively build on the intensity/difficulty levels while the volume/quantity of training is reduced, finally culminating in two weeks of peak performance followed by a period of active rest.
- Goals:** The goals for each block are categorized as training goals, nutrition goals, and psychological preparation goals. While nutrition and psychological preparation goals are fairly straightforward as observable in Table 1, training goals involve three important variables that deserve a closer look.
 - Volume:** In our case, we represent resistance training volume as the number of sets multiplied by the number of repetitions and limb contacts for plyometric exercise. Aerobic endurance volume is represented in minutes exercised. There is a planned gradual initial increase (weeks 1 and 2) followed by a gradual decrease (weeks 3 – 11) in training volume.
 - Intensity:** Since the athletes were in home confinement, there was no access to maximal or even sub-maximal loading, force plates, etc. The intensity measures used were RPE scores and proximity to failure (1,7,11). There was a planned gradual increase in the absolute RPE goals (weeks 1 – 10) and also in terms of the mode of intensity used, which shifts from general strength endurance to explosive qualities (weeks 7 – 10).
 - Frequency:** The overall training was divided into tactical, technical (conducted by their respective coaches), and strength and conditioning. Similar to volume, there was a planned gradual initial increase (week 1 and 2) followed by a gradual decrease (weeks 3 – 11) in the frequency of strength and conditioning training.
- Testing:** Preliminary testing was conducted at week 2, intermediate testing was conducted at the end of week 6, and final peak performance testing was conducted at the end of week 10. The testing process is unique to our situation, wherein, the entire testing is done by the athletes themselves (reporting accuracy and integrity is assumed) under coach supervision. The quantitatively measurable parameters are lower body power and local muscular endurance using the standing long jump test and the one-minute push-up/squat tests, respectively. In addition to this, certain subjective data was also logged to track progress using RPE scores (average session RPE based on post-session questionnaire) and visual assessment.
- Associated Factors:** Lastly, certain additional aspects of the protocol need to be discussed as well:
 - Equipment:** As mentioned earlier, the athletes were in home confinement and the entire program was executed

SCALE	ACTIVITY
10	MAX EFFORT Completely out of breath, unable to talk
8/9	VERY HARD Difficult to maintain intensity and talk
6/7	VIGOROUS Uncomfortable, short of breath but still able to talk somewhat
4/5	MODERATE Breathing heavily but can hold a conversation
2/3	LIGHT Feels like one can sustain activity for a long time, easy to breathe and hold a conversation
1	VERY LIGHT Little exertion needed but more than sleeping or sitting

FIGURE 1. SAMPLE RPE SCALE

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using bodyweight, resistance bands, loaded backpacks, and water bottles.

- **Sleep:** Athletes were advised to get a minimum of eight hours of quality sleep (10,14,16,22).
- **Lifestyle Stressors:** Although due to the quarantine situation stressors were limited, the athletes still needed to dedicate a significant number of daily hours to their academic studies.
- **Coaches per Session:** During any given situation, there were a minimum of two strength and conditioning coaches for training delivery and observation.
- **Attendance and Progress Monitoring:** This was maintained daily entirely via Google Sheets™.
- **Parent Interaction:** This was done in the presence of the athletes once every five weeks and parents were in regular communication with the management and coaches directly as well.
- **Safety Management:** Due diligence was performed to ensure that the athletes were well-versed in the movement technique, the activity area was large enough and free from hazardous objects, the athletes were supervised, light workout days and psychological preparation sessions were programmed, and RPE scores and general fatigue levels were constantly monitored.

SUMMARY OF ASSESSMENT AND KEY MEASURABLES

Although this article is meant to present a case for using online coaching for maintaining fitness during social distancing situations, the reader may also be interested in how the athletes' fitness was assessed through the program and the observations have been summarized as follows. The athletes were tested three times during the program. Since they were restricted to their homes, self-administered basic tests such as standing long jump test, one-minute squat test, and one-minute push-up test were used to assess lower-body power, muscular endurance, and upper body muscular endurance. Certain subjective measures were also considered, such as RPE scores and visual assessment for flexibility. It must be stated that the athletes were being monitored by two or more coaches during these tests via the video conferencing app Zoom. Significant improvements were seen in lower-body power and muscular endurance. However, upper body muscular endurance was not significantly improved. This was not surprising since the program was designed to focus primarily on the lower body. All athletes reported lower RPE ratings, for comparatively similar workouts, which indicated a general improvement in fitness. Improvements were also seen in the athletes' general flexibility.

RECOMMENDATIONS AND LIMITATIONS

Although this sample online 11-week training protocol was designed for use with soccer players who had beginner level prior experience with resistance exercise, certain aspects of the approach may be replicated within the general population for maintaining/improving fitness. A sample minimal weight, online training program is provided in this article. Also discussed are

certain aspects that may make online training an unsuitable alternative in specific situations.

Recommendations: This protocol may be modified in order to cater to individuals of the general population for general fitness purposes. In order to ensure a productive and safe training session, the author recommends the following:

1. **Space and Equipment:** The coach will require adequate physical space and equipment, such as cell phones, cameras, proper lighting, appropriate equipment for demonstration, appropriate sound recording equipment, a high-speed internet connection, etc.
2. **Effective Communication Skills:** The coach must have the ability to express technical details in a simple and easy to understand manner. Similar to our physical environment, it is always an advantage to be a good demonstrator.
3. **Language:** The coach will be at an added advantage if they are able to deliver content in multiple languages (if applicable to the specific situation).
4. **Safety Considerations:** The safety of athletes/clients is the top priority and the following must be considered while developing the training plan:
 - Proper exercise surface
 - Environmental conditions
 - Equipment management
 - Proper attire
 - Flow of session
 - Alertness and observation

DESCRIPTION OF THE GENERAL POPULATION ONLINE AT-HOME TRAINING PROTOCOL

This program is designed to allow the personal trainer to remotely train an otherwise healthy client from the general population via online mediums, using bodyweight or minimal equipment.

PHASES

1. **Familiarization and Technique Perfection:** The goal in this phase is to simply familiarize the client with any new movements and correct any errors as required. The overall volume and intensity are low and the client is exposed to a variety of exercises in preparation for the weeks to come.
2. **Work Capacity Buildup:** This phase focuses on increasing the total amount of aerobic and resistance training. The goal is to build muscular endurance and aerobic endurance while maintaining muscle mass. The volume is on the higher side, while intensity is still moderate. The resistance is provided mostly by bilateral bodyweight exercises with some external resistance being used.
3. **High-Intensity Endurance/Isometric Strength:** There is a planned shift towards lower-volume, higher-intensity type of activities in this phase. The aerobic training can involve more interval-type training and the resistance exercise has

an isometric component wherein static mid-range of motion (ROM) holds are used to present a novel stimulus. The resistance is provided by bilateral and unilateral bodyweight exercises with a lot of external resistance being used in the form of resistance bands, water bottles, backpacks, etc.

4. **Deload/Recovery:** Rest and recovery are the main objectives within this phase. Both amount and difficulty of exercise are low and the client is encouraged to take an approximately week-long break from training to re-sensitize themselves to exercise stimulus.

ADDITIONAL GUIDELINES

1. This is a suggested sample program which has the client exercising three days of the week and assumes a worst-case scenario wherein there is minimal access to equipment, low time commitment, and total home confinement. The personal trainer is encouraged to modify their approach as appropriate.
2. Although the specific sequence between aerobic endurance and resistance training is not a limiting factor, the author suggests aerobic endurance training from week 1 to week 7. Due to its fatiguing nature, aerobic endurance training should be performed after resistance training (4,5). During week 8 to week 10, the order can be reversed since the nature of the aerobic training is meant to be low duration and relatively higher intensity.
3. Flexibility training in the form of dynamic and static stretching is a constant throughout the program.
4. The personal trainer is encouraged to seek the counsel of nutrition and psychology professionals wherever applicable.

LIMITATIONS:

1. **First Aid:** One of the major concerns in an online session is first aid. In this case, the subject must be familiar with basic self-first-aid. The author highly recommends that online sessions be delivered for groups as opposed to individuals. This is recommended in case someone gets injured, this way there will be others to help them.
2. **Experience Levels:** Due to the inherent lack of proximity, online training would be better suited towards more experienced athletes who are familiar with basic form and technique, and possess better physical awareness.
3. **Scope of Activity:** Certain fitness parameters may not be well suited to online training. For example, linear running speed, agility, and several skill-specific aspects would not be ideally trained online. The main limiting factor would be physical space. In case the client or subject is restricted to a smaller room, adequate space may not be available for deceleration, pivoting, etc. However, this may not be the case for individuals with access to slightly larger open areas.
4. **Technological Demand:** Although most individuals are sufficiently informed regarding social media and technology, there might be instances where the client is not aware of certain aspects of video conferencing or may be using a cell

phone, which makes it difficult to view the demonstrations and corrections. Also, the possibility of temporary power outages might interfere with the session quality.

The intended takeaway of this article is to highlight the possibilities in maintaining/improving fitness even in a home confinement and social distancing scenario. As shown, the protocol can very easily be modified to remotely train clients who are confined at home and do not have access to standard training facilities. In summary, although there is no substitute for the human touch and the coach's eye, in situations of social distancing, online training, if planned and executed properly, may be embraced as a viable alternative.

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TABLE 1. SAMPLE ONLINE 11-WEEK TRAINING PROTOCOL FOR SOCCER PLAYERS

PERIOD	WEEKS 1 – 2	WEEKS 3 – 8	WEEKS 9 – 10	WEEK 11
PHASE	FAMILIARIZATION AND ASSESSMENT	BASE ACCUMULATION	PERFORMANCE	DELOAD
TRAINING GOALS	Movement Technique Corrections (Upper Body Push-Pull, Squat and Hip Hinge Pattern) Breathing Technique Awareness	Lean Muscle Maintenance	Lean Muscle Maintenance (Lower Frequency)	Active Rest, Non-Specific Low-Intensity at Home Activities Whole-Body Flexibility (Dynamic and Static Stretching)
		Muscle Endurance (Bilateral and Unilateral Focused)	Explosive Power* (Bilateral and Unilateral Focused)	
		General Anaerobic Capacity (Interval Training)	General Anaerobic Capacity (High-Intensity Interval Training)	
		Whole Body Flexibility (Dynamic and Static Stretching)	Whole Body Flexibility (Dynamic and Static Stretching)	
TRAINING VOLUME	Approximately 6 Prime Movement Patterns + 2 Accessory Movements + 1 Core Strength Movement, 2 – 3 Sets per Movement Pattern, 10 – 12 Reps per Set Aerobic Endurance: Long Duration (45 min) / Low-Intensity Continuous (Performed as Separate Session)	Explosive Power* (Minimal but Gradually Increasing from Week 7)		
		Approximately 6 Prime Movement Patterns + 2 Accessory Movements + 1 Core Strength Movement, 4 – 5 Sets per Movement Pattern, Power: 6 – 8 Reps per Set (Limb Contacts Target 60 – 80 per workout) / Muscle Maintenance 15 – 20 Reps per Set Aerobic Endurance: Moderate/ Long Duration (30 – 35 min) / Moderate-Intensity Continuous Bouts (Performed as Separate Session)	Aerobic Endurance: Short Duration (15 – 20 min) / High-Intensity Bouts (Performed as Separate Session) Approximately 6 Prime Movement Patterns + 2 Accessory Movements + 1 Core Strength Movement, 2 – 3 Sets per Movement Pattern, Power: 5 – 7 Reps per Set (Limb Contacts Target 90 – 110 per workout) / Muscle Maintenance: 10 – 15 Reps per Set	Approximately 5 – 7 Prime Movement Patterns, 1 – 2 Sets per Movement Pattern, 7 – 10 Reps per Set
TRAINING INTENSITY	RPE Based: 3 – 4 RPE	RPE Based: 5 – 7 RPE and Proximity to Failure in Some Sets: 4 – 5 Reps in Reserve	RPE Based: 8 – 9 RPE and Proximity to Failure in Some Sets: 2 – 3 Reps in Reserve	RPE Based: 3 – 4 RPE
TRAINING FREQUENCY	3 Times per Week	4 – 5 Times per Week	3 – 4 Times per Week	2 – 3 Times per Week
NUTRITION GOALS	Nutrition Counselling, Goal Setting, Habit Formation	Diet Adherence and Minor Modifications, Focus on Macronutrient Quantity and Micronutrient Density	Protein Lowered Slightly, Fiber Intake Moderated	Carbohydrate Intake Lowered, Protein Intake Constant, Fat Intake Constant
		Focus on Hydration, Fiber Intake, Carbohydrate Intake Increase Protein, Fat Intake Constant	Carbohydrate Intake Constant or Increased as per Requirement, Fat Intake Constant	Hydration Maintained but Leniency on Fiber Intake
		Basic Supplementation (e.g., Multivitamins, Glucose)	Electrolytes and Hydration Increased Basic Supplementation (e.g., Multivitamins, Glucose)	Only Multivitamins Suggested
PSYCHOLOGICAL PREPARATION GOALS	Explanation of Training Program Roadmap and Goal Setting	Simple Pre-Workout Visualization Exercises	Simple Pre-Workout Visualization Exercises and Post Workout Meditation	No Specific Suggestion but Meditation Encouraged
TESTING	Week 2 – Preliminary Testing		Week 10 – Peak Performance Testing	

*For power exercises the lower body prime movement patterns are executed explosively

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TABLE 1. SAMPLE ONLINE 11-WEEK TRAINING PROTOCOL FOR SOCCER PLAYERS (CONTINUED)

EXERCISE SELECTION		
PRIME MOVEMENT PATTERN	LOWER BODY SQUAT	Bodyweight Squat
		Lunges
		Bulgarian Split Squat
		Step-Ups
		Pistol Squat
	LOWER BODY HIP HINGE	Deadlift
		Goodmornings
		Glute Bridges
		Romanian Deadlift
		Implement Swings
	UPPER BODY HORIZONTAL PULL	Bent Over Rowing
		Single-Arm Bent Over Rowing
		Standing Resistance Band Rows
		Standing Resistance Band Face Pulls
		Pull-Ups
	UPPER BODY VERTICAL PULL	Chin-Ups
		Close Grip Resistance Band Pulldowns
		Wide Grip Resistance Band Pulldowns
		Push-Ups
		Resistance Band Floor Press
	UPPER BODY HORIZONTAL PUSH	Standing Resistance Band Chest press
		Band Resisted Push-Ups
		Resistance Band Overhead Press
		Resistance Band Arnold Press
		Handstand Push-Ups
ACCESSORY MOVEMENTS	LOWER BODY	Calf Raises
		Toe Walks
		Banded Lateral Walks
		Banded Quadruped Hip Abductions
		Banded Donkey Kicks
	UPPER BODY	Banded Leg Extensions
		Banded Leg Curls
		Resistance Band Biceps Curls
		Resistance Band Triceps Extensions
		Resistance Band Hammer Curls
	UPPER BODY	Resistance Band Pressdowns
		Resistance Band Lateral Raises
		Resistance Band Front Raises
		Resistance Band Shrugs
		Resistance Band Rear Deltoid Flyes

TABLE 1. SAMPLE ONLINE 11-WEEK TRAINING PROTOCOL FOR SOCCER PLAYERS (CONTINUED)

EXERCISE SELECTION		
CORE STRENGTH MOVEMENTS	MOVEMENT BASED	Curl-Up
		Leg Raise
		Bicycle Crunch
		Flutter Kick
		Russian Twist
	HOLD BASED	V-Hold
		Superman Hold
		Birddog
		Regular Plank
		Side Plank
AEROBIC ENDURANCE	LONG DURATION/ LOW INTENSITY	Step-Ups on Low Bench
		High-Repetition Surya Namaskars
		Static Marching
	MODERATE DURATION/ MODERATE INTENSITY	Moderate-Intensity Skipping
		Power Yoga
		Moderate-Speed Step-Ups
		Spot Jogging
	SHORT DURATION/ HIGH INTENSITY	High Speed Skipping
		Burpees
		High Knees
Jumping Jacks		
		Plank Jacks
ASSOCIATED FACTORS		
IMPLEMENTS USED	Bodyweight, Resistance Band, Loaded Backpack, Water Bottles	
SLEEP	Minimum 8 hr Advised, Minimal Screen Time Advised	
LIFESTYLE STRESSORS	Already Low because of Quarantine Situation, but General Academics should not be Ignored	
COACHES PER SESSION	Two	
MODE OF TRAINING	Video Conferencing via Zoom	
ATTENDANCE AND PROGRESS TRACKING	Online via Google sheets	
VIRTUAL COACH-PARENT-ATHLETE DISCUSSION	Every 5 Weeks via Zoom	

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TABLE 2. SAMPLE ONLINE 11-WEEK TRAINING PROTOCOL FOR GENERAL POPULATION

PERIOD	WEEKS 1 – 2	WEEKS 3 – 7	WEEKS 8 – 10	WEEK 11
PHASE	FAMILIARIZATION AND TECHNIQUE PERFECTION	WORK CAPACITY BUILDUP	HIGH-INTENSITY ENDURANCE/ ISOMETRIC STRENGTH	DELOAD/RECOVERY
TRAINING GOALS	Movement Technique Corrections (Upper Body Push-Pull, Squat and Hip Hinge Pattern) Breathing Technique Awareness Moderate ROM, Low Complexity Stretching	Lean Muscle Maintenance (Bilateral Focused; Gradually Introducing External Resistance) Muscle Endurance (Bilateral Focused) General Aerobic Capacity Whole Body Flexibility (Dynamic and Static Stretching)	Lean Muscle Maintenance (Bilateral Focused and Unilateral Focused; Mostly with External Resistance Implements) Isometric Strength Moderate/High-Intensity Aerobic Capacity Whole-Body Flexibility (Dynamic and Static Stretching)	Active Rest, Low-Intensity at Home Activities Whole- Body Flexibility (Dynamic and Static Stretching)
TRAINING VOLUME	Resistance Training: Approximately 6 Prime Movement Patterns + 2 Accessory Movements + 1 Core Strength Movement, 2 Sets per Movement Pattern, 10 – 12 Reps per Set Aerobic Endurance: Long Duration (30 min) / Low Intensity Continuous	Approximately 6 Prime Movement Patterns + 4 Accessory Movements + 2 Core Strength Movements, 3 – 4 Sets per Movement Pattern, 12 – 15 Reps per Set Aerobic Endurance: Moderate / Long Duration (20 – 30 min) / Moderate-Intensity Continuous Bouts	Aerobic Endurance: Short Duration (10 – 15 min) / High-Intensity Bouts Approximately 6 Prime Movement Patterns + 3 Accessory Movements + 3 Core Strength Movements, 3 – 4 Sets per Movement Pattern, 8 – 10 Reps per Set	Approximately 5 – 6 Prime Movement Patterns, 1 – 2 Sets per Movement Pattern, 7 – 10 Reps per Set Moderate-Pace Step-Ups on Bench, Suryanamaskars
TRAINING INTENSITY	RPE Based: 3 – 4 RPE	RPE Based: 5 – 6 RPE	RPE Based: 7 – 8 RPE	RPE Based: 3 – 4 RPE
TRAINING FREQUENCY	3 Times per Week	3 Times per Week	3 Times per Week	2 Times per Week

TABLE 2. SAMPLE ONLINE 11-WEEK TRAINING PROTOCOL FOR GENERAL POPULATION (CONTINUED)

EXERCISE SELECTION		
PRIME MOVEMENT PATTERN	LOWER BODY SQUAT	Bodyweight Squat
		Lunges
		Bulgarian Split Squat
		Step-Ups
		Pistol Squat
	LOWER BODY HIP HINGE	Deadlift
		Goodmornings
		Glute Bridges
		Romanian Deadlift
		Implement Swings
	UPPER BODY HORIZONTAL PULL	Bent Over Rowing
		Single-Arm Bent Over Rowing
		Standing Resistance Band Rows
	UPPER BODY VERTICAL PULL	Standing Resistance Band Face Pulls
		Pull-Ups
		Chin-Ups
		Closed Grip Resistance Band Pulldowns
		Wide Grip Resistance Band Pulldowns
	UPPER BODY HORIZONTAL PUSH	Push-Ups
		Resistance Band Floor Press
		Standing Resistance Band Chest Press
ACCESSORY MOVEMENTS	UPPER BODY VERTICAL PUSH	Band Resisted Push-Ups
		Resistance Band Overhead Press
		Resistance Band Arnold Press
		Handstand Push-Ups
	LOWER BODY	Calf Raises
		Toe Walks
		Banded Lateral Walks
		Banded Quadruped Hip Abductions
		Banded Donkey Kicks
	UPPER BODY	Banded Leg Extensions
		Banded Leg Curls
		Resistance Band Biceps Curls
		Resistance Band Triceps Extensions
		Resistance Band Hammer Curls
		Resistance Band Pressdowns
		Resistance Band Lateral Raises
		Resistance Band Front Raises
		Resistance Band Shrugs
		Resistance Band Rear Deltoid Flyes

ONLINE TRAINING—RECOMMENDATIONS FOR IMPROVING FITNESS IN ATHLETES AND GENERAL POPULATION

TABLE 2. SAMPLE ONLINE 11-WEEK TRAINING PROTOCOL FOR GENERAL POPULATION (CONTINUED)

EXERCISE SELECTION		
CORE STRENGTH MOVEMENTS	MOVEMENT BASED	Curl-Up
		Leg Raise
	HOLD BASED	Bicycle Crunch
		Flutter Kick
		Russian Twist
		V-Hold
		Superman Hold
		Birddog
		Regular Plank
		Side Plank
AEROBIC ENDURANCE	LONG DURATION/ LOW INTENSITY	Step-Ups on Low Bench
		High Repetition Surya Namaskars
	MODERATE DURATION/ MODERATE INTENSITY	Static Marching
		Moderate-Intensity Skipping
		Power Yoga
		Moderate-Speed Step-Ups
		Spot Jogging
		High-Speed Skipping
	SHORT DURATION/ HIGH INTENSITY	Burpees
		High Knees
Jumping Jacks		
Plank Jacks		
ASSOCIATED FACTORS		
IMPLEMENTS USED	Bodyweight, Resistance Band, Loaded Backpack, Water Bottles	
SLEEP	Minimum 7 hr Advised	
COACHES PER SESSION	One	
MODE OF TRAINING	Video Conferencing via Zoom	
ATTENDANCE AND PROGRESS TRACKING	Online via Google Sheets	
VIRTUAL COACH-CLIENT DISCUSSION	Every Week or as Required	