



## SPORT SCIENCE: BALANCING EXERCISE DYNAMICS & EXERCISE PRESCRIPTION FOR OPTIMAL SPEED OF PLAY

Dr. John R. Cone

Email: [jcone@fitfor90.com](mailto:jcone@fitfor90.com)

[www.fitfor90.com](http://www.fitfor90.com)



### Key aspects & considerations:

- The level of player, their fitness level, and status on the training day is the starting point in designing each activity.
- Smallest group of players determines the duration of an activity. Example: 8v6 activity focusing on defending; the 6 will be the limiting factor in the exercise prescription as they will experience a higher load (physiological & mechanical).
- Consider the restrictions you place on play and how they impact exercise dynamics to increase or decrease speed of play. Example: Playing 1-touch versus playing freely, 1-touch will typically result in a higher speed of play, thus leading to a shorter activity prescription.
- Consider the dynamics of the activity and how it makes the exercise more or less continuous. Example: Playing to target goals may result in the ball being out of bounds more frequently than playing to targets acting as “bumpers” putting the ball back in play to a team.
- Consider the space relative to the number of players in your exercise set-up and how this affects the number of player actions, frequency of actions, and type of actions (sprint v high intensity accelerations). Example: tighter the space equates to a higher number of actions occurring more frequently, and therefore involving a higher neurological load.
- Rotation of players in and out of an activity, and the load placed on the potential imbalance of load on isolated players. Example: Playing with a “plus” player or focusing on a specific player tactically may result in an imbalance on the specific player relative to the group.

### General numbers, fitness target & exercise prescription:

Soccer-Specific Fitness Target	Metabolic Training Adaptation	General number of players involved in activity (range)	General work interval duration (range in minutes)	General recovery interval duration (range in minutes)	Total Number of repetitions & sets
Match Endurance	Aerobic Capacity	8 to 11	7 to 15	2 to 3	1 to 4
Transient Endurance	Aerobic Power	5 to 7	3 to 6	2 to 3	1 to 6
Intermittent Endurance	Anaerobic Capacity	2 to 4	<1 to 2.5	1-2	3 to 8 & 1 to 3