Rugby Sevens

Study of the performance model

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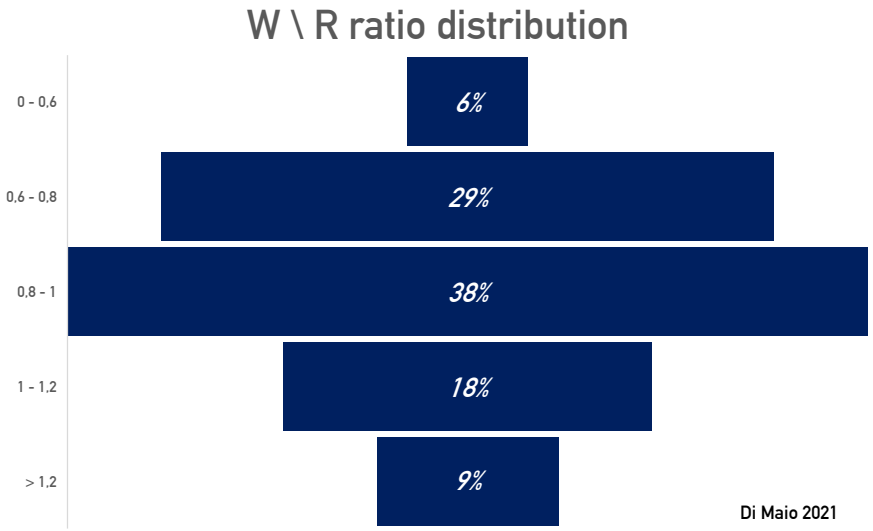
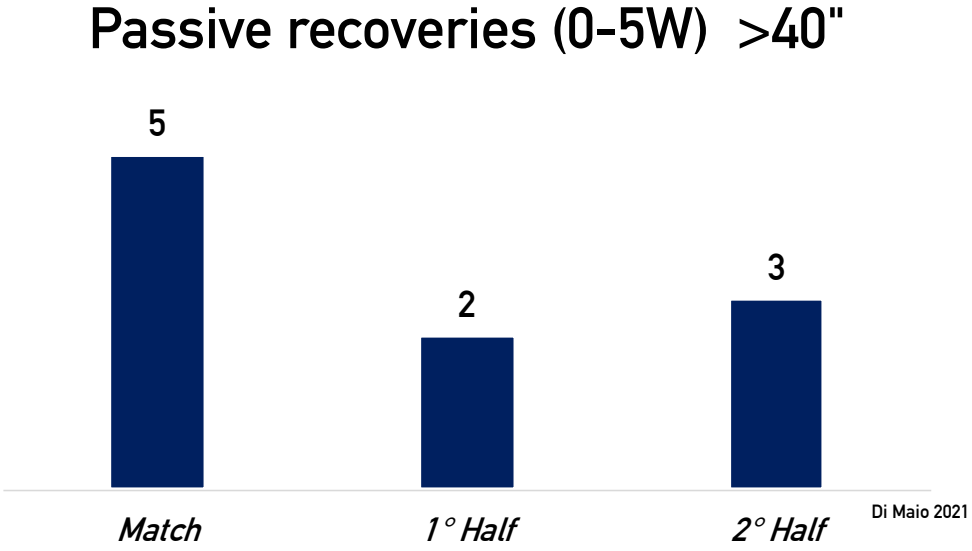
RECOVERY

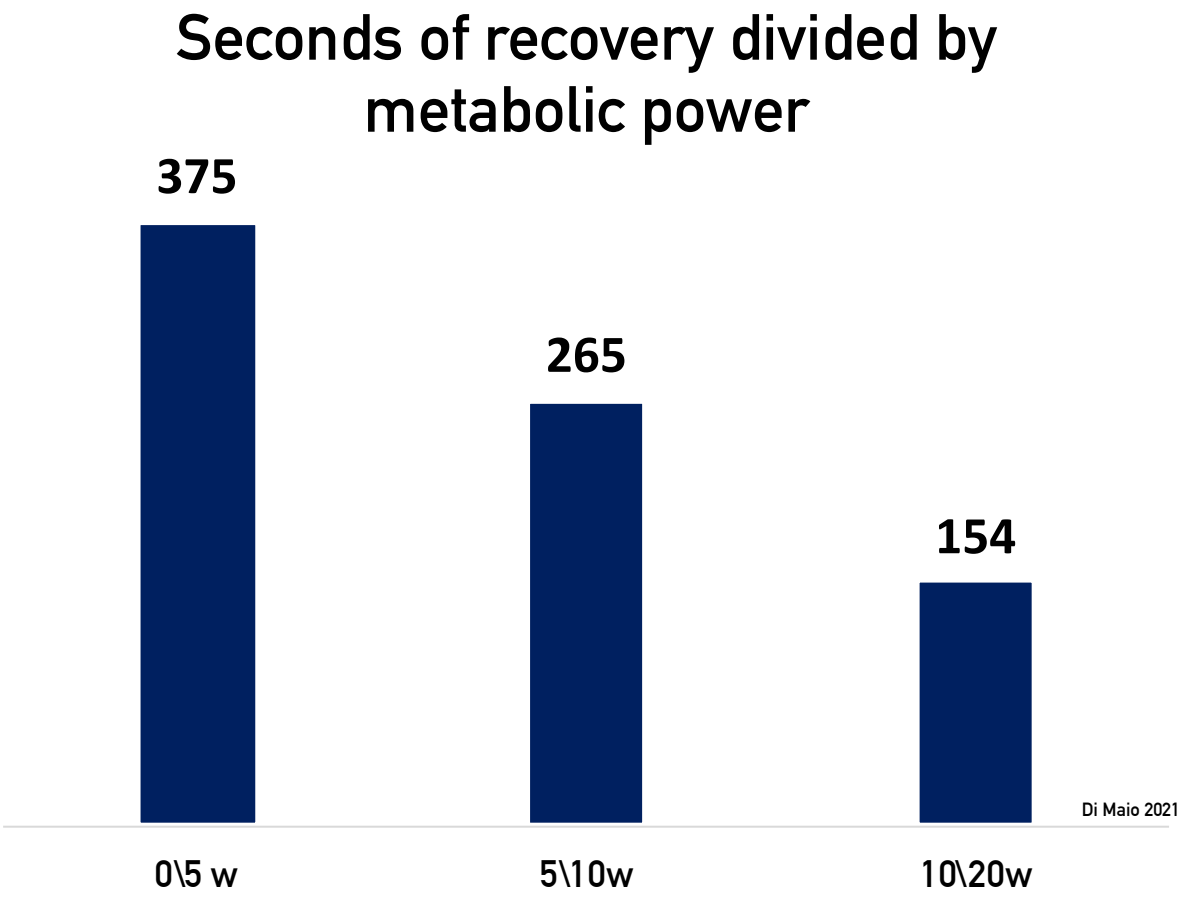
It was shown in the study of the game sequences that there is a relationship between work and recovery during the game.
This ratio is W \ R 1 to 1.1, ie for every 100 seconds of play there are correspondingly 110 seconds of no play.
This average data is actually the result of a distribution of this value which is shown in the next graph (Average total match data).

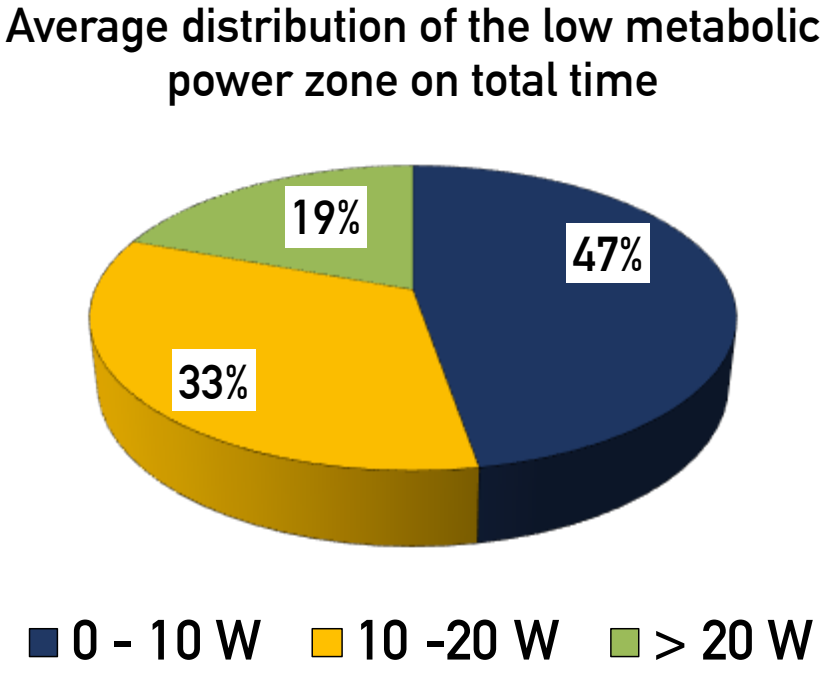


In this study, all the time spent below the 20W threshold is considered as "recovery". But there are different recoveries in terms of duration and intensity.
These are the passive recoveries (below 5W) lasting more than 40 sec that are found on average in the game:

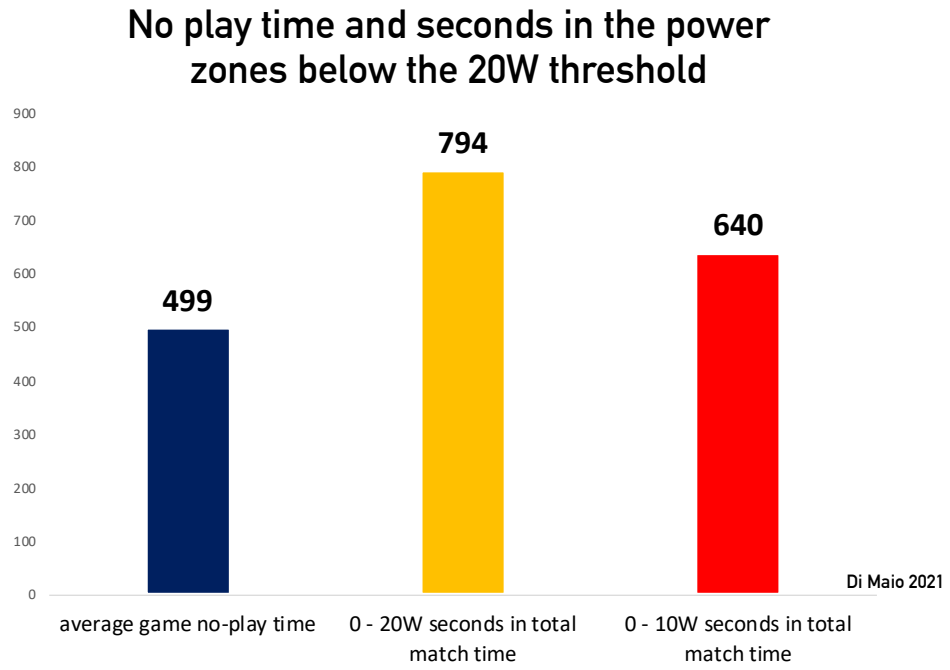


The latter are certainly the longest and least intense recoveries that we find during the entire match without considering the break between 1st and 2nd half.
We then saw how higher intensity recoveries are present between repeated intense actions.
In general, the distribution of the non-high-power bands is as follows:





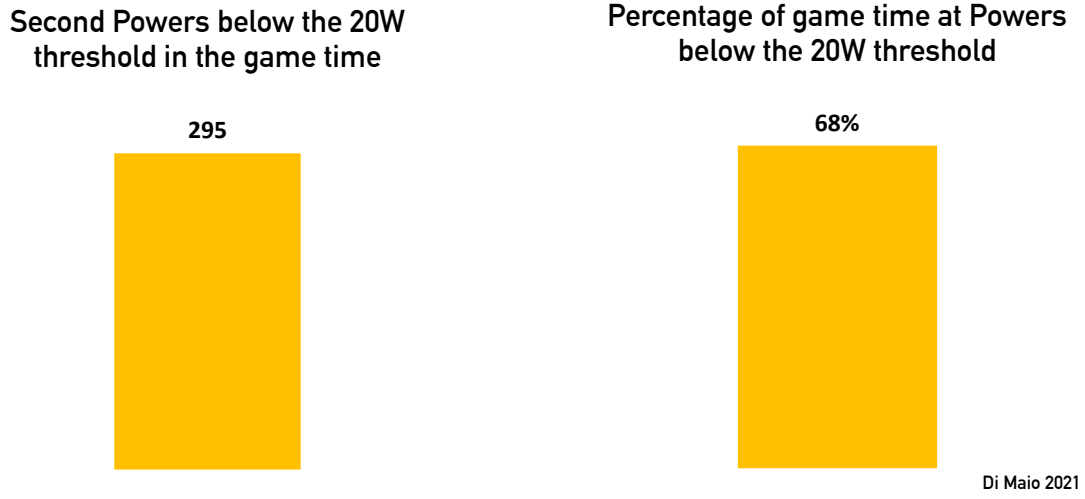
If we consider the no play time during the game by comparing it with the times at low powers, we can guess that a good percentage of the game time is spent at relatively low powers.



In fact, on average, players spend 295 seconds under 20w during the game time. This figure, compared with that of the game time studied in the first part of the document, shows us that 68% of the time players are below the 20Watt threshold.

The remaining 32%, which corresponds to 141 seconds, is spent on average above 20W.

Clearly, in this time when the powers are low, all technical-tactical interventions involving strength linked to specific gestures must be considered. This topic will be covered later on.



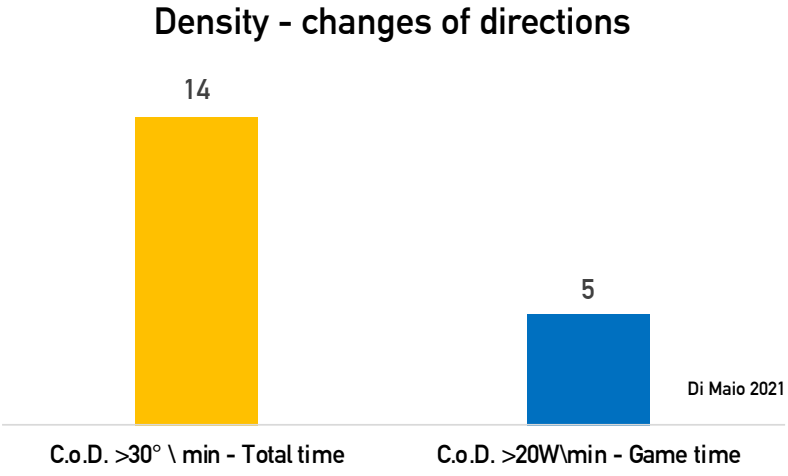
CHANGES OF DIRECTION

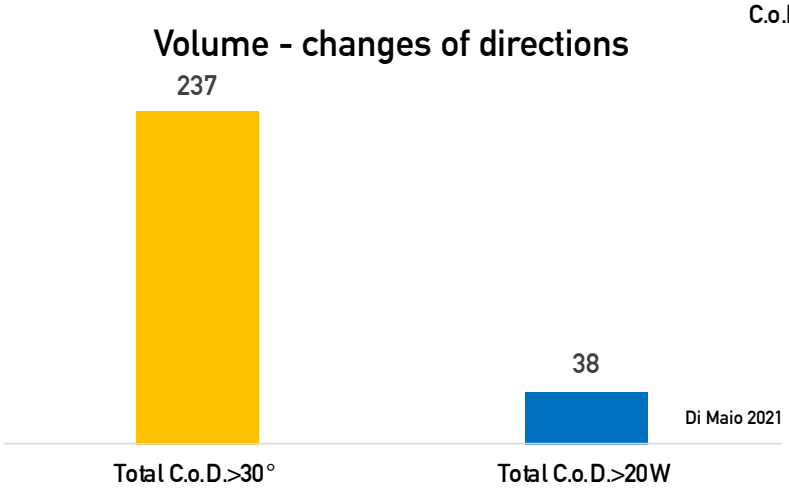
Despite the space that every single Sevens player has available, it is difficult to travel long distances without making changes of direction.

Any situation that involves changes of direction increases the neuromuscular load that players undergo during the game.
In fact, even if not considered at a metabolic level (if not the acceleration phase following the change), changes in direction are one of the elements that contribute to raise the sensation of fatigue.

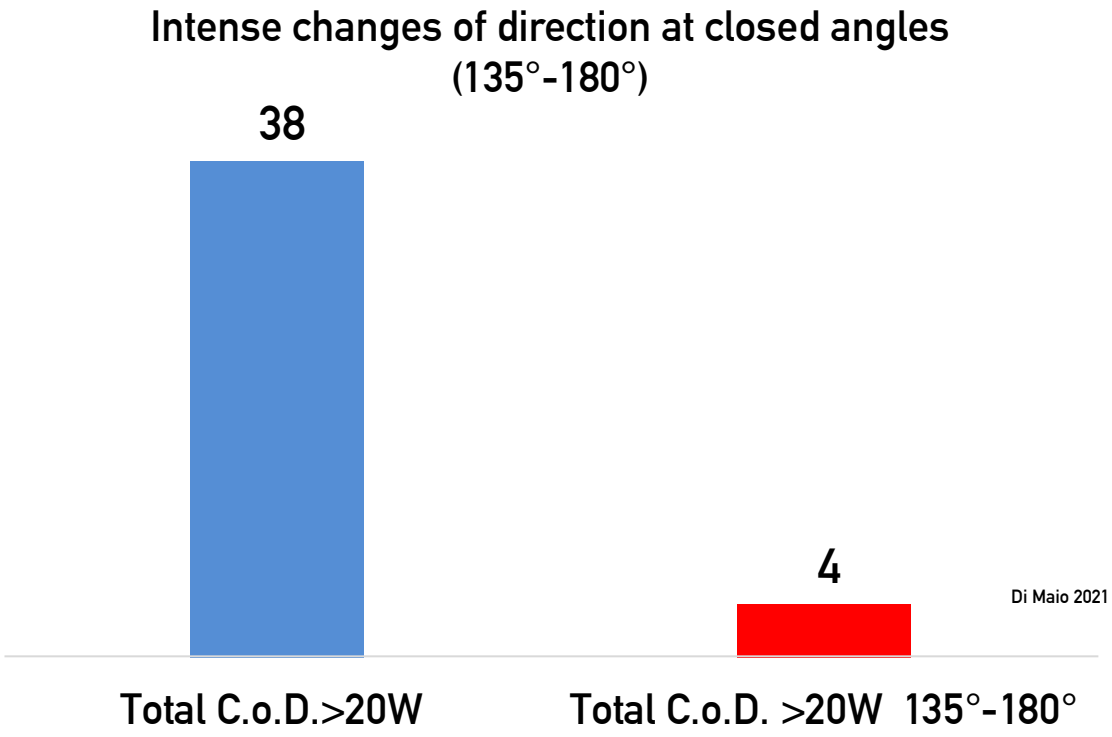
They have been divided into two groups: those greater than 30 ° and those defined as intense (situations in which after the change, 20W is immediately reached by making a new acceleration).
To calculate the density, the following were compared with time:
- With the total of the game in the case of changes of direction> 30 ° as they also occur in the non-game time.
- With the game time in the second group (> 20W) because it is possible to find this type of parameter exclusively in the playing time.

The total volume of changes with angles greater than 30 ° is 237 while for intense ones it is 38.1 every 12 seconds of game time.
Numbers that demonstrate how central this parameter is in the performance model and how online racing does not fully represent what happens on the pitch.
The consideration that, in the playing time, there are phases in which the players do not run, increases the weight of the changes in the running phases more.





Also understanding which types of changes of direction are most present in the match helps us to refine the parameter and to associate the types of training more related to the performance model, when you want to propose specific or special training



Specifically, the changes of direction with very closed angles (180 ° intense are the ones we find in a shuttle run) represent only 10% of all the intense changes of the game.
With this data it can be said that training a Rugby Sevens player exclusively with Shuttles, or in any case by increasing the load by inserting only this type of changes, does not allow us to train this aspect in a specific or special way.