

XXVII Isokinetic Medical Group Conference



ISOKINETIC
MEDICAL
GROUP



Hosted by:



BARÇA
INNOVATION HUB

Camp Nou, Barcelona
2nd 3rd 4th June, 2018

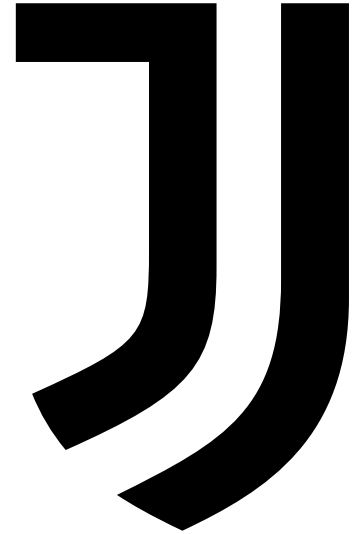


TRAINING LOAD MONITORING STRATEGY: an elite youth soccer approach

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Training Load

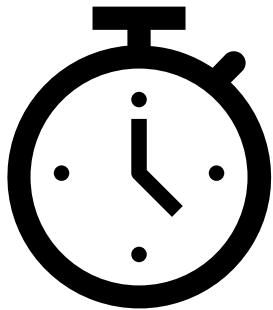


Match Load



Work Load

INTRODUCTION: how we monitor – focus on session RPE method (Foster 1998)



CR10 Percezione dello sforzo

- 0 NESSUNO SFORZO
- 0.3
- 0.5 ESTREMAMENTE LEGGERO
- 1 MOLTO LEGGERO
- 1.5
- 2 LEGGERO
- 2.5
- 3 MODERATO
- 4
- 5 SFORZO FORTE, PESANTE
- 6
- 7 MOLTO FORTE, MOLTO PESANTE
- 8
- 9
- 10 FORTISSIMO, PESANTISSIMO
- 11
- MASSIMO ASSOLUTO



Exposure time

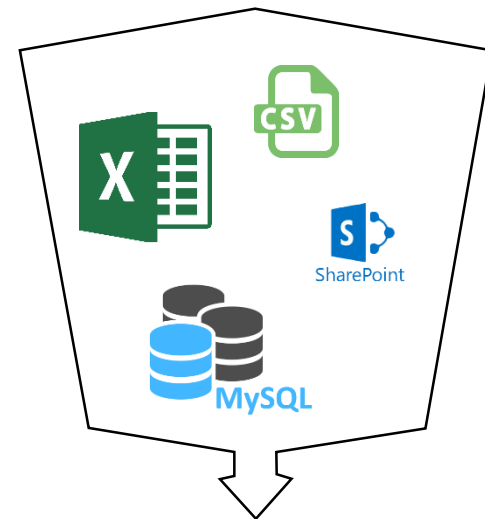
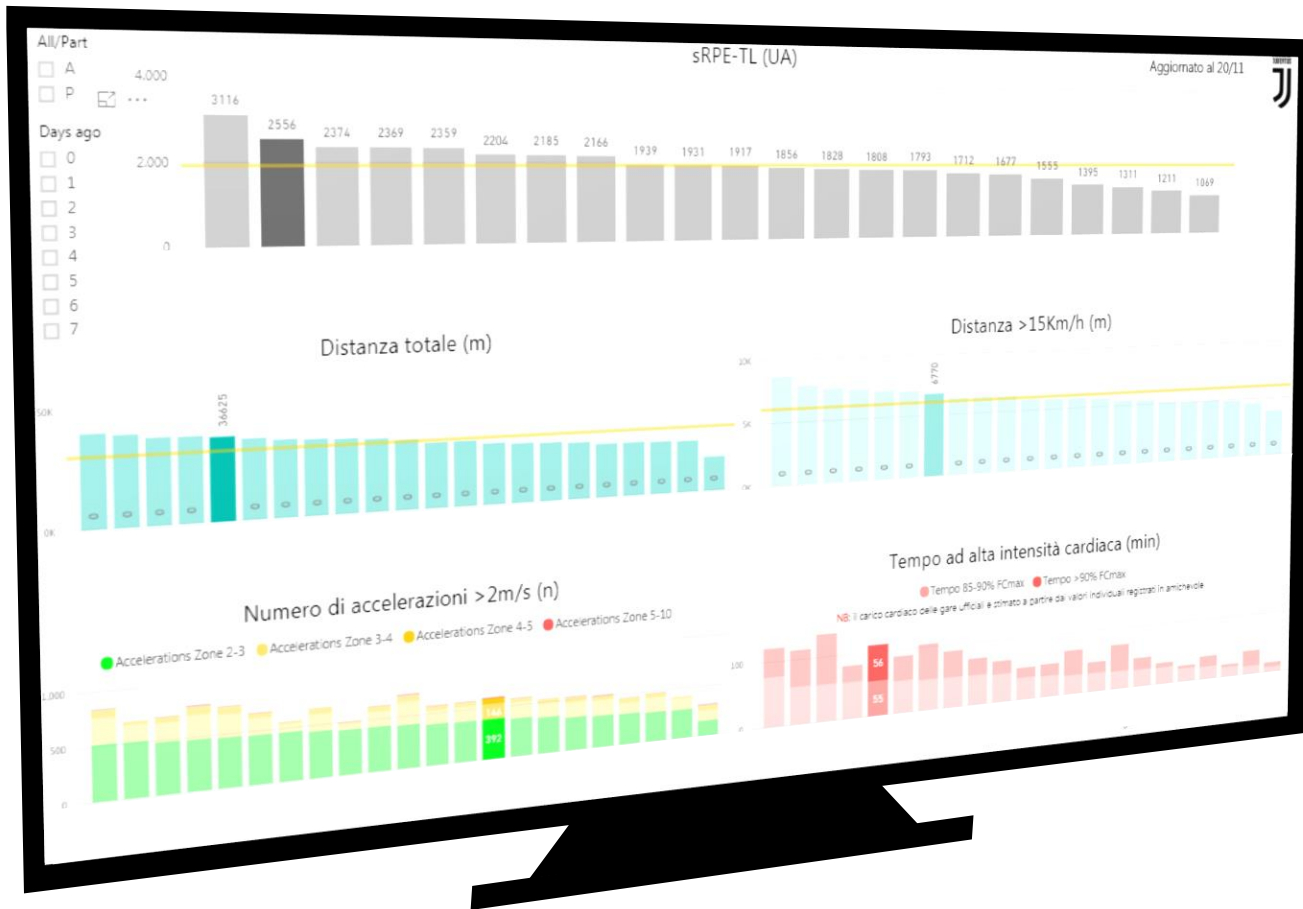
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RPE

=

sRPE-TL

INTRODUCTION: how we monitor - our approach in work load monitoring



To highlight what could be useful taking into consideration in a weekly TL report, that can be useful to increase youth players performance reducing injuries occurrences

Players monitored
from August 2016
to May 2017

27 Under 19

21 Under 17

18 Under 16

22 Under 15

28 Under 14

116

Players were tested in August, September, December and March

MT

Mognoni Test:

6 minutes continuous run at 13.5 km/h

HIIT

High Intensity Intermittent Test:

10 x [2x25m with 180° CoD in 10"] with 20 seconds rest between the repetitions

CMJ

Counter Movement Jump test:

with arms placed on the waist, measured as absolute power output

A weekly report
from Sport
Science to
Coaching Staff

Team report

Feedback on:

- sRPE-Training Load
- Mean sRPE
- Total exposure

Player report

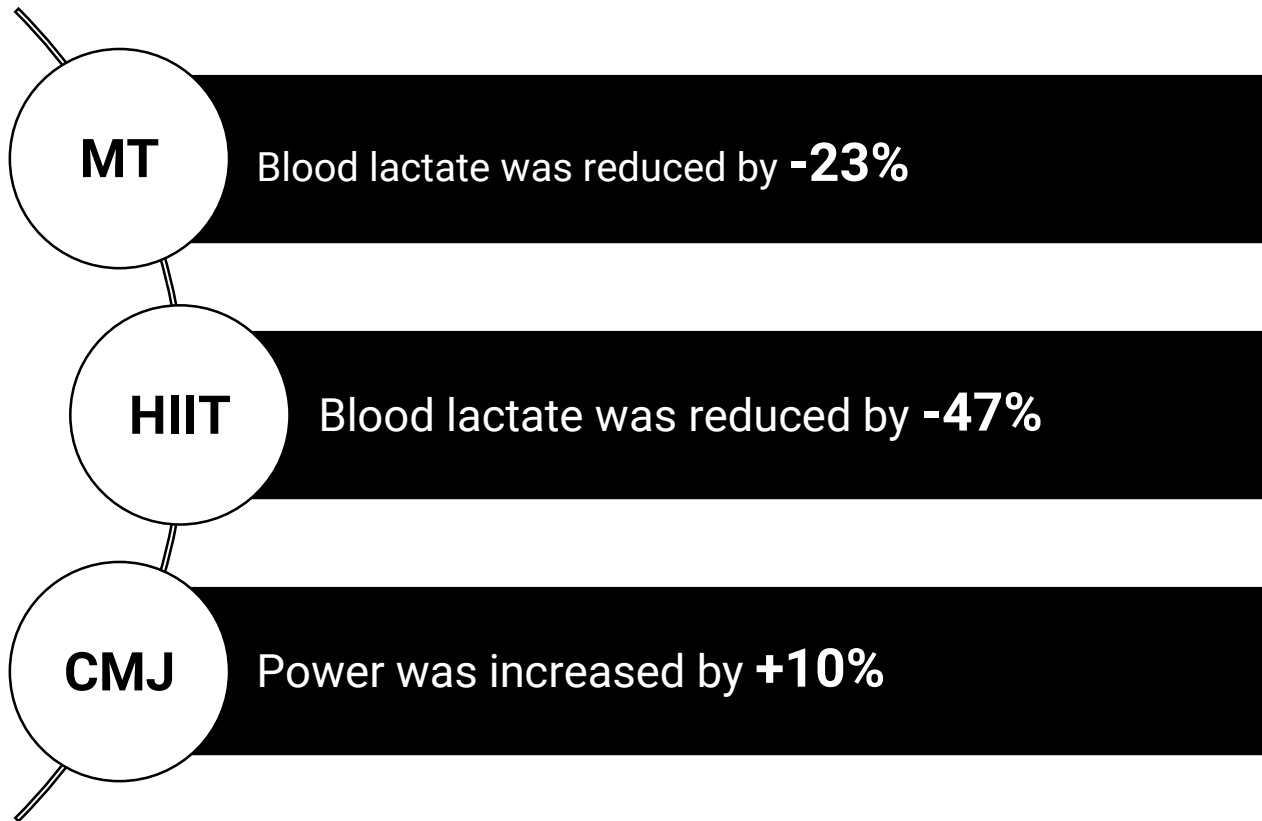
- Total weekly load and exposure
- Comparison with individual mean weekly load, team weekly mean and previous weeks load.
- Acute:Chronic 7:28 work load ratio (ACWR)

RESULTS: physiological test data



All the
physiological
tests' values
improved from
**September to
March**

Student T-test
 $p < 0.04$



442

3.1 ± 1.7
per week
per age category

individual
FEEDBACK

Adopted criteria

- Increases in absolute values between weeks (U19 >1000 AU, U17 >800 AU, U16 >700 AU, U15 >500 AU, U14 >400 AU)
- ACWR >1.6
- Significant differences between individual load and team TL
- Increasing trend of weekly TL in the last 4 weeks

442

3.1 \pm 1.7
per week
per age category

individual
FEEDBACK

80% of cases players training load was subsequently individualized by the staff (reduced or augmented according to the needs)

20% of cases training load was not adjusted or adapted

20%
of cases
training load
was not
adjusted or
adapted

71% **OK**

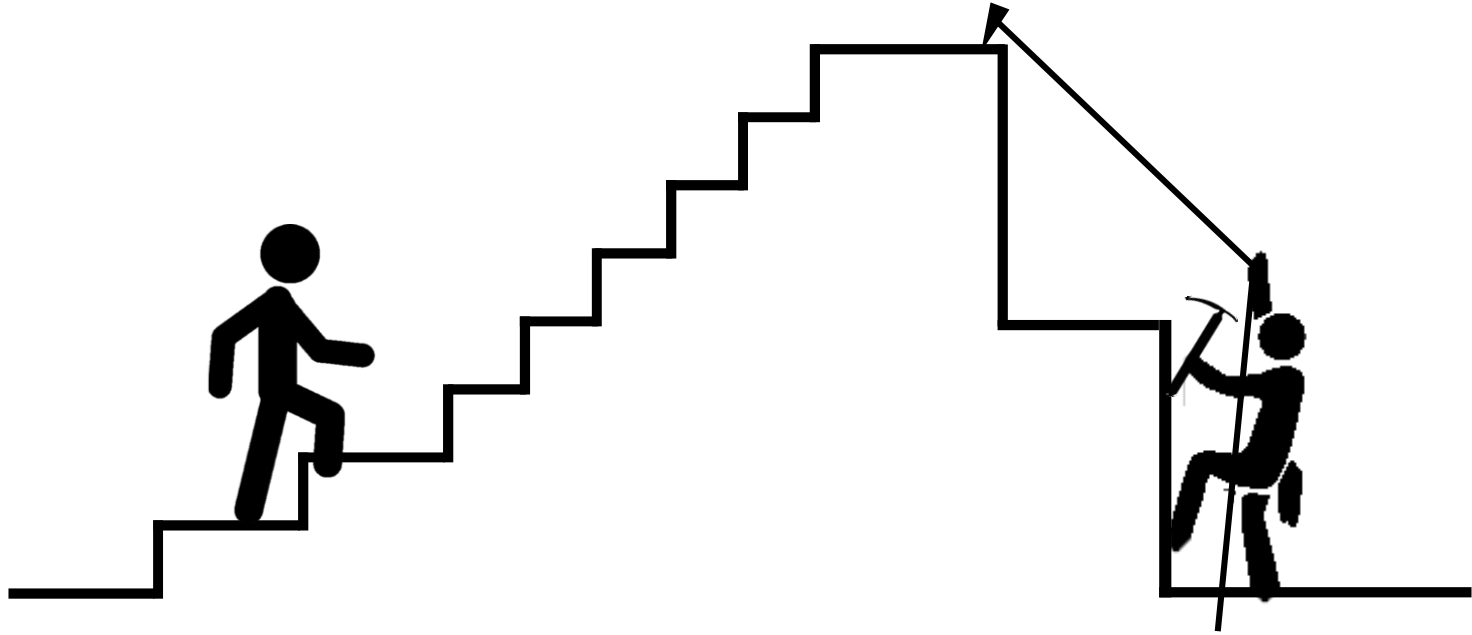
29% **injury**

	Injury	NO injury
TL alarm	True Positive	False Positive
Safe TL	False Negative	True Negative

Considering day by day data & injuries events:

- ROC curve
- Youden Index
- GEE analysis
- Mixed models

CONCLUSIONS: progressively



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