

NSCA

GLOBAL CONFERENCE 10TH EDITION

23/25 OTTOBRE >> VERONA 2026



CALL FOR ABSTRACT **10TH NSCA GLOBAL CONFERENCE**



La **10° NSCA Global Conference** apre ufficialmente la **Call for Abstract** rivolta a ricercatori, professionisti, studenti e specialisti del settore che desiderano condividere i propri lavori scientifici, progetti di ricerca o esperienze applicative nel campo della **preparazione atletica, fisioterapia, performance e riabilitazione sportiva**.

L'obiettivo è promuovere il dialogo scientifico e professionale, valorizzando contributi originali che riflettano il tema centrale dell'evento: **l'integrazione tra Strength & Conditioning e Fisioterapia** per ottimizzare la performance, prevenire gli infortuni e favorire percorsi di recupero efficaci.

Procedure di selezione



INVIO DELL'ABSTRACT

Gli autori sono invitati a inviare un abstract originale (massimo 2000 caratteri) in lingua **inglese**, redatto secondo il seguente formato:

- **Titolo** (breve ,meno di 15 parole, e scritto in formato Title Case)
- **Autori:** I nomi e cognomi degli autori saranno inseriti nel blocco autori.
Non includere titoli accademici (es. PhD, MD), poiché interferiscono con le funzioni di ricerca online.
- **Introduzione / Background**
- **Metodi**
- **Risultati attesi o ottenuti**
- **Conclusioni e implicazioni pratiche**

Tabelle, grafici e diagrammi contano come 300 caratteri ciascuno.

Non utilizzare nomi di marca nell'abstract.

Indicare i finanziamenti tramite grant e i riconoscimenti relativi all'intelligenza artificiale durante la fase di invio.



REVISIONE SCIENTIFICA

Tutti gli abstract ricevuti saranno valutati dal **Comitato Scientifico di NSCA GC Italy**.

I criteri di valutazione includeranno:

- Rilevanza e originalità del contenuto
- Rigorosità metodologica
- Applicabilità pratica nel contesto sportivo o clinico
- Qualità scientifica e chiarezza espositiva



NOTIFICA DI ACCETTAZIONE

Gli autori selezionati riceveranno comunicazione ufficiale via email e saranno invitati a presentare il proprio lavoro **in forma di poster o comunicazione orale** durante la conferenza.

ESEMPI DI ABSTRACT

BRAKING FORCE-TIME CHARACTERISTICS BETWEEN TRADITIONAL SQUATS AND FLYWHEEL INERTIA SQUATS AT DIFFERENT LOADS

PURPOSE: The purpose of this study was to examine the differences in braking force-time characteristics between traditional back squats and flywheel inertia squats performed using a spectrum of loads.

METHODS: 17 resistance-trained subjects took part in this research study including 9 men (age=24.7±4.0 years, height=171.7±5.8 cm, body mass=77.9±11.2 kg, relative one repetition maximum [1RM] back squat=2.01±0.26 kg/kg) and 8 women (age=23.0±2.1 years, height=167.6±8.6 cm, body mass=71.5±7.7 kg, relative 1RM back squat=1.43±0.25 kg/kg). Each subject participated in three total sessions over the course of one week. During the first testing session, each subject completed a 1RM back squat and were familiarized with flywheel inertia squats. During the subsequent two testing sessions, the subjects performed three repetitions each of the free weight back squat exercise with 40, 50, 60, 70, and 80% of their 1RM back squat or flywheel squats using inertial loads of 0.010, 0.025, 0.050, 0.075 and 0.100 kgm². The traditional and flywheel squat session order was randomized. All squat repetitions were performed on dual force plates sampling at 1000 Hz. Raw force-time data were collected and exported for analysis within a customized spreadsheet. Braking mean force, duration, and impulse were compared using a series of 2 (condition) x 5 (load) repeated measures ANOVA. In addition, Hedge's g effect sizes were calculated between conditions to examine the magnitude of the differences at each load.

RESULTS: The descriptive data for each load and mode are displayed in Table 1. There was a significant interaction between mode x load for eccentric mean force ($p < 0.001$), and duration ($p = 0.008$) but not for braking impulse ($p = 0.513$). In addition, there was a significant load main effect for braking impulse ($p < 0.001$) but not for mode ($p = 0.140$). Large-very large effects favoured traditional squats for braking mean force ($g = 1.66$ - 2.70). The differences in braking duration between conditions were small-moderate ($g = 0.25$ - 1.00). Finally, the effect sizes between conditions for eccentric impulse were trivial-moderate ($g = 0.12$ - 0.76).

CONCLUSIONS: Significantly greater braking mean forces were produced during traditional squats compared to flywheel squats. In contrast, braking durations were significantly greater during flywheel squats compared to traditional. There were no significant differences between squat conditions for braking impulse; however, moderate effect sizes favouring the traditional condition were present at the lightest loads.

PRACTICAL APPLICATION: The desired training adaptation may influence the decision to use one training mode over another. Traditional squats may be more beneficial for braking rapid force production as greater force may be produced over shorter durations. However, flywheel training may provide a novel braking stimulus to individuals who almost exclusively use traditional exercises within their training programs.

ACKNOWLEDGEMENTS: none

Table 1: Eccentric mean force, eccentric duration, and eccentric impulse for traditional and flywheel inertia squats.

Load (%1RM)	Traditional		
	Eccentric Mean Force (N/kg)	Duration (s)	Impulse (Ns)
40	21.5 ± 3.0*	0.42 ± 0.11	651.8 ± 136.4
50	22.7 ± 3.4*	0.49 ± 0.13	808.2 ± 186.3†
60	24.4 ± 3.5*	0.49 ± 0.12	889.3 ± 220.7†
70	25.4 ± 3.6*	0.55 ± 0.11	1044.1 ± 269.5†
80	26.7 ± 3.8*	0.61 ± 0.13	1230.9 ± 308.5†
Inertia (kgm ²)	Flywheel		
	Eccentric Mean Force (N/kg)	Duration (s)	Impulse (Ns)
0.010	16.4 ± 2.0	0.48 ± 0.14#	563.1 ± 127.3
0.025	18.0 ± 1.9	0.52 ± 0.11	685.0 ± 125.3†
0.050	18.0 ± 2.1	0.64 ± 0.21#	857.4 ± 278.3†
0.075	17.9 ± 2.2	0.76 ± 0.27#	999.9 ± 348.0†
0.100	18.0 ± 2.3	0.83 ± 0.30#	1106.1 ± 381.7†

* = significantly greater than flywheel corresponding load ($p < 0.001$); # = significantly greater than traditional corresponding load ($p < 0.05$); † = significantly greater than all the preceding lighter loads ($p < 0.05$)

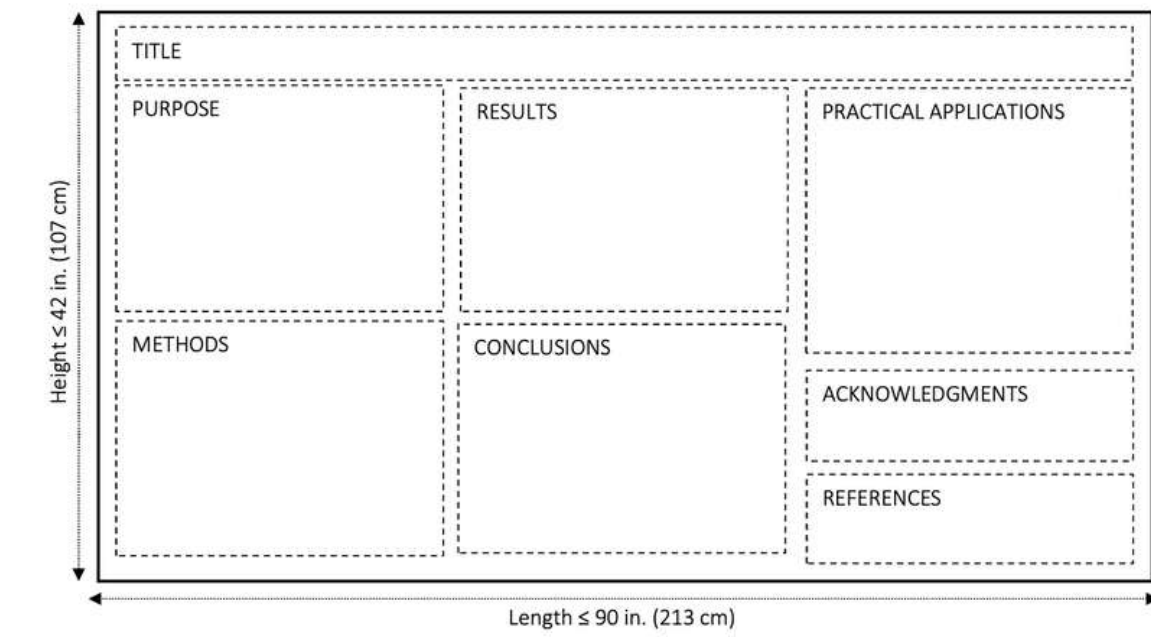


LINEE GUIDA PER LA PRESENTAZIONE DI ABSTRACT PER POSTER

- Tutte le presentazioni poster devono essere stampate su un unico foglio uniforme, con dimensioni non superiori a 42 × 90 pollici (107 × 229 centimetri) (altezza × larghezza).
- Salvo diversa indicazione, i pannelli per l'affissione dei poster avranno dimensioni di 48 × 96 pollici (122 × 244 cm).
- Le presentazioni di abstract per poster devono essere coerenti con i contenuti dell'abstract accettato e includere le seguenti sezioni: scopo, metodi, risultati, conclusioni e applicazioni pratiche.
- I presentatori del poster sono tenuti a rimanere accanto al proprio poster per tutta la durata del tempo assegnato alla presentazione.
- Il Comitato di Ricerca raccomanda una delle seguenti due impostazioni grafiche come linea guida generale per tutte le presentazioni poster: Poster Tradizionale o #BetterPoster

ESEMPIO DI POSTER TRADIZIONALE

I. TRADITIONAL POSTER DESIGN



2025 Undergraduate Student Poster Presentation Winner

April Krywe – Creighton University

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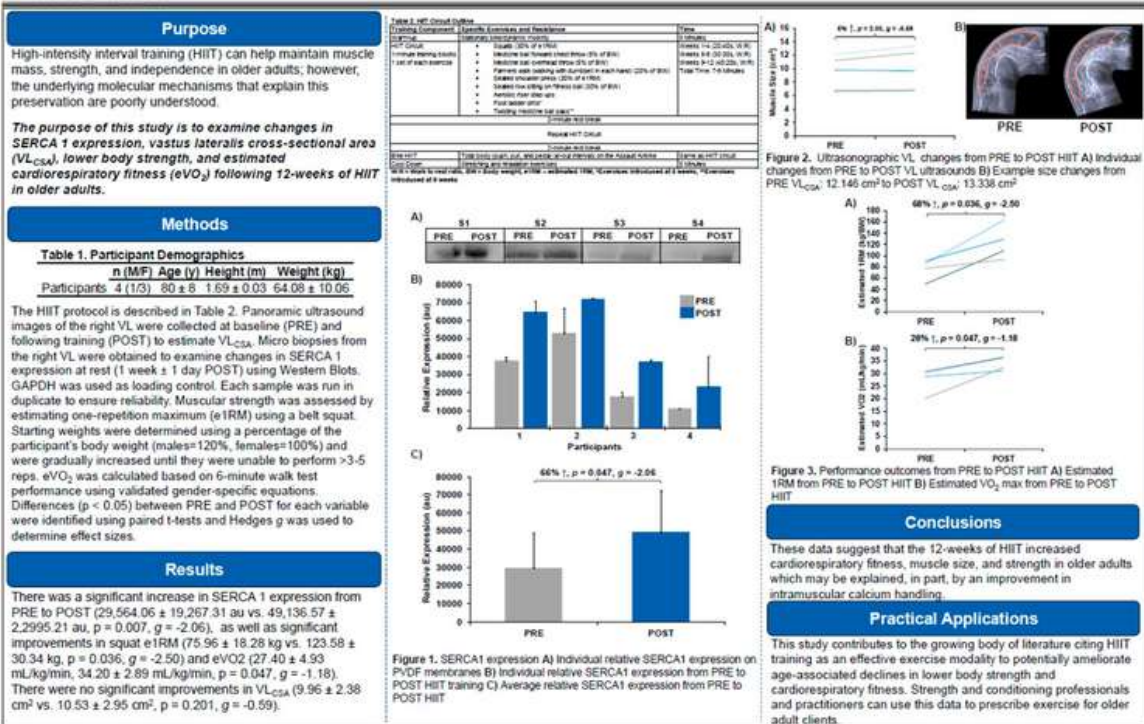
THE IMPACT OF HIIT ON MUSCLE FUNCTION AND SERCA1 IN OLDER ADULTS: A PILOT STUDY

April Krywe¹, Rashelle Hoffman², Eric Bredahl¹, Blake Murphy¹, Joan Eckerson¹, Mitchel Magrini¹

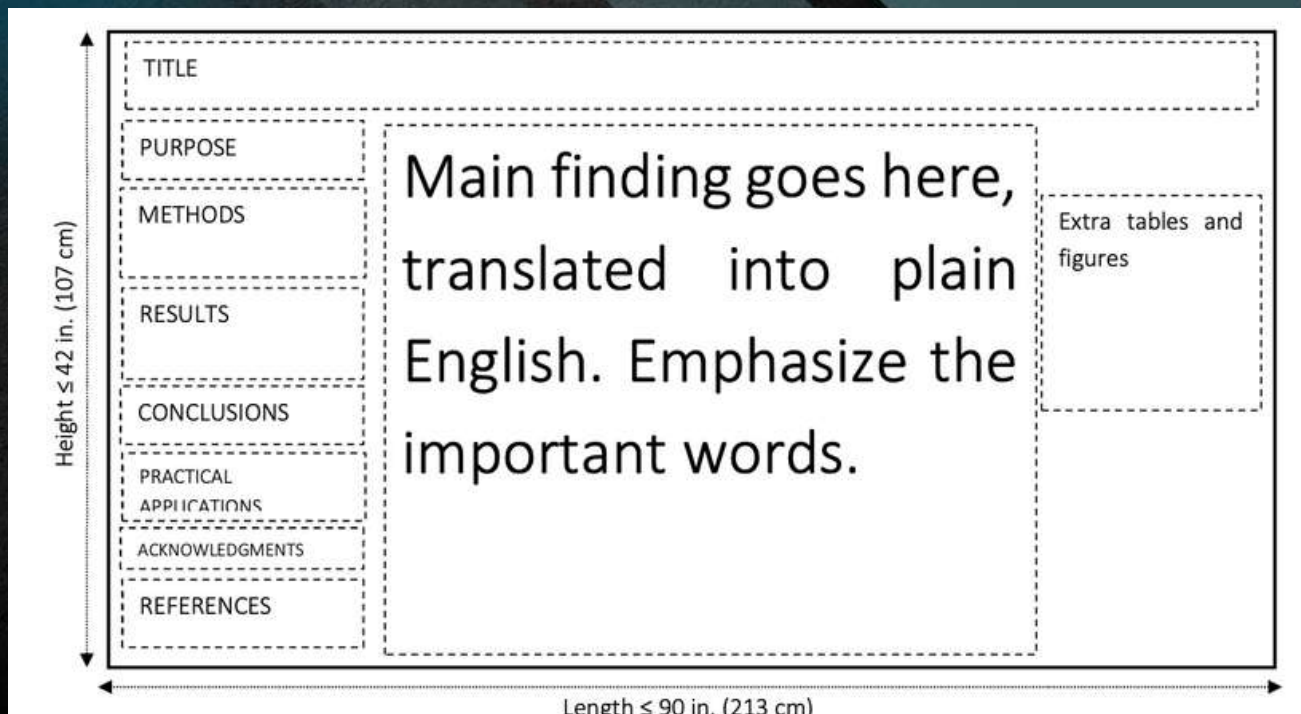
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CURAS
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ESEMPIO DI #BETTER POSTER DESIGN





Influence of Relative Load on Fatigue During One Set of Forearm Flexion Muscle Actions to Failure at Maximal Intended Velocity

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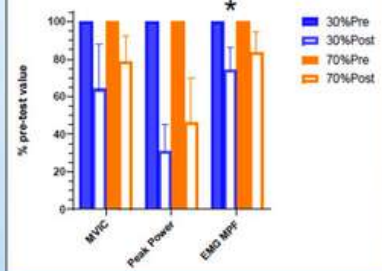


INTRODUCTION

Velocity-based training has recently gained interest as an alternative to traditional resistance training that emphasizes the relative load lifted, while performing the repetition at a slower self-selected velocity. The purpose of the present study was to examine the effects of relative load during one set of forearm flexion muscle actions to failure performed at maximal intended velocity (MIV) on performance (maximum voluntary isometric contraction (MVIC), peak force (PF), peak velocity (PV), and peak power (PP)) and neuromuscular responses.

Despite the **low load** inducing a **greater magnitude of metabolic stress**, the decreases in MVIC, peak velocity, and peak power **were not influenced** by the relative load used for the max velocity forearm flexion muscle actions.

FIGURE 1. Fatigue responses



METHODOLOGY

On separate days, 14 men (mean $\pm$ SD: age=22.9 $\pm$ 2.0 yrs; body mass=85.0 $\pm$ 16.9 kg; height=178.7 $\pm$ 5.9 cm) completed one set of forearm flexion muscle actions to failure at 30% and 70% of their one-repetition maximum (1RM), in a random order. Prior to the fatiguing task the subjects completed pre-testing which consisted of two repetitions of dynamic forearm flexion muscle actions at the load equivalent to the fatiguing task and two maximum voluntary isometric contractions, performed in a random order. Following the fatiguing task the subjects were re-tested (post-testing) in the same manner of pre-testing. All muscle actions were performed unilaterally, on a preacher curl setup with their nondominant arm. The concentric phase of each repetition was completed at MIV (as quickly as possible). Electromyographic (EMG) signals were recorded from the biceps brachii during testing, and the amplitude (AMP) and mean power frequency (MPF) values were normalized to the values from the pre-test MVIC with the highest force output. For all performance (MVIC, peak force, peak velocity, and peak power) and neuromuscular (EMG AMP and MPF) parameters, a fatigue index was calculated as the percent decline from pre-test to post-test. Paired samples t-tests were used to examine differences in the number of repetitions completed at each load, as well as in the fatigue index for all performance parameters.

RESULTS

The subjects completed a significantly ($p < 0.001$, $d = 3.0$) greater number of repetitions to failure at 30% 1RM (64.9 $\pm$ 17.4) compared to 70% 1RM (16.7 $\pm$ 5.1). Peak force decreased more significantly ($p < 0.001$, $d = 1.3$) following the 30% (32.0 $\pm$ 16.8%) versus 70% 1RM task (7.6 $\pm$ 9.9%). In addition, there was a significantly ($p = 0.004$, $d = 0.9$) greater decrease in EMG MPF for the 30% (25.6 $\pm$ 11.7%) compared to the 70% 1RM task (16.3 $\pm$ 11.0%). There were, however, no significant ($p > 0.05$) differences between the 30% and 70% tasks for the fatigue index for MVIC, PV, PP, or EMG AMP.

CONCLUSION

The results of the study indicated that, although the subjects were able to sustain repetitions to failure for longer at 30% 1RM compared to 70% 1RM, there were no load-specific effects of fatigue on decreases in MVIC, PV, or PP. In addition, there were no differences in changes in muscle excitation (EMG AMP) from pre-test to post-test. However, the 30% 1RM task induced a greater decrease in motor unit action potential conduction velocity compared to the 70% 1RM task, as evidenced by the decrease in EMG MPF.

PRACTICAL APPLICATION

The results of this study offer strength and conditioning practitioners with valuable insights into the effects of relative load during fatiguing muscle actions performed at MIV. For instance, training with lower relative loads at MIV will induce a greater metabolic stress, without negatively affecting movement velocity or PP production, compared to when training with moderate relative loads.



REGISTRAZIONE ALLA CONFERENZA

L'accettazione dell'abstract è subordinata all'acquisto del **biglietto di partecipazione alla 10° NSCA Global Conference.**

La registrazione è obbligatoria per almeno uno degli autori e consente di partecipare a tutte le sessioni scientifiche, pratiche e di networking previste.



COME E DOVE INVIARE

La vostra candidatura dovrà essere inviata presso il seguente indirizzo mail: **riccardo.battioli@nsca.it**

Come oggetto inserire "Nome-Cognome + Abstract Submission NSCA Global conference 2026"

Scadenze e informazioni utili

**DEADLINE PER L'INVIO
DEGLI ABSTRACT**



**31 GIUGNO
2026**

**COMUNICAZIONE
DEI RISULTATI**



**31 LUGLIO
2026**

Presentare il proprio lavoro alla **10° NSCA Global Conference** rappresenta un'opportunità unica per contribuire attivamente al dibattito scientifico internazionale, condividere esperienze professionali e stabilire connessioni con colleghi e ricercatori da tutto il mondo.

Il miglior abstract verrà premiato con il riconoscimento di "Young Investigator Award". Il vincitore verrà premiato alla cena del Sabato Sera.