NSCA
NATIONAL STRENGTH AND CONDITIONING ASSOCIATION

2026 NSCA
Kansas State Clinic
Abstract Poster Guidelines

Updated September 17, 2026

The National Strength and Conditioning Association® (NSCA®)

The **National Strength and Conditioning Association (NSCA)** is a nonprofit professional organization dedicated to advancing the strength and conditioning profession around the world.

Mission statement: As the worldwide authority on strength and conditioning, we support and disseminate research-based knowledge and its practical application, to improve athletic performance and fitness.

The NSCA advances the profession by supporting strength and conditioning professionals devoted to helping others discover and maximize their strengths. We disseminate research-based knowledge and its practical application by offering industry- leading certifications, research journals, career development services, and continuing education opportunities. The NSCA community is composed of more than 45,000 members and certified professionals who further industry standards as researchers, educators, strength coaches, personal trainers, and other roles in related fields.

NSCA Kansas State Clinic Abstract Guidelines

General Information

The National Strength and Conditioning Association (NSCA) is pleased to make a call for research abstract submissions for presentation at the **2025 Kansas State Clinic**. Research abstract presentations are an opportunity for **faculty and students at Master's Colleges and Universities** (M1, M2, M3) and **students at research institutions** (R1, R2, R3) to present current research findings to researchers, educators, and strength and conditioning professionals attending the NSCA Kansas State Clinic. The Kansas State Director and Advisory Board members encourage all researchers and students to submit their abstracts for consideration to the 2025 Kansas State Clinic.

Submission Deadline

The abstract submission deadline is November 8, 2026 (11:59 PM Central Time). Late submissions will not be accepted.

Notification

Submitting authors will receive notification of acceptance or rejection of their research abstract no later than November 15, 2026. If you do not receive notification by November 15, please contact gerald.larson@avila.edu.

Language

All abstracts must be written in English.

Cost

There is no cost to submit an abstract, but due to costs incurred by the NSCA, all accepted abstracts are expected to be presented.

Failure to Present

Failure to present an accepted abstract may result in disqualification from presentations at future NSCA conferences.

Presentation Format

All research abstracts should be submitted in a poster format.

Presentation Time

Posters will be displayed all day of the clinic (December 6, 2025) during the lunch break.

Publication of Abstracts

Accepted abstracts will be published in an electronic format on the Kansas State Clinic site beginning the week of the clinic and through April of the following year.

Guidelines for State/Provincial/Regional Abstract Presentations

If state and/or regional events choose to have abstract presentations, they must follow the same abstract guidelines and policies as for the NSCA National Conference. This includes, but is not limited to:

- Abstracts must be original research studies and include only unpublished and original data.
    - *Original research may include "From the Field" style abstract reports that are unpublished, such as case studies or strength & conditioning/sport science focused reports on unique data collection and/or data analysis procedures are also encouraged.*
- Abstracts may not contain any data currently in press (i.e. data submitted for publication). *Data collection must be completed at submission. Incomplete data collection will not be accepted.*
- Abstracts may not have been previously presented at another conference, except at the NSCA National Conference.
- **Policy on use of artificial intelligence (AI)**
    - AI authoring tools do not meet the standards required for authorship as defined by the International Committee for Medical Journal Editors (ICMJE). Authors who use AI tools in the writing of their abstract, production of images or graphical elements of the abstract, or in the collection and analysis of data, must be transparent in fully disclosing how the AI tool was used and which tool was used. All authors are fully responsible for the content of their manuscript, even those parts produced by an AI tool, and are thus liable for any breach of publication ethics.
    - In addition, authors should not upload an accepted or published abstract or any part of it into a generative AI tool as this may violate the copyright agreement or licensing terms in effect at the time of acceptance.
- **Use of human and animal subjects**
    - All research studies that include data recorded from human participants must comply with the Declaration of Helsinki and the US Department of Health and Human Services Policy for the Protection of Human Research Subjects (US Code, Title 45, Part 46 Protection of Human Subjects). All animal studies must comply with the Public Health Service Policy on Humane Care and Use of Laboratory Animals.
- All abstract presenters must pay for their clinic registration and all other fees associated with travel.
- Abstracts may only be submitted online.
- For questions, please email the NSCA at gerald.larson@avila.edu

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Subject Categories

There are twelve (12) available categories for research abstracts:

1. Biochemistry / Endocrinology
2. Biomechanics / Neuromuscular
3. Body Composition
4. Endurance Training / Cardiorespiratory
5. Fitness / Health
6. Flexibility / Stretching
7. Nutrition / Ergogenic Aids
8. Resistance Training / Periodization
9. Social and Behavioral Science
10. Special Populations (health conditions)
11. Speed / Power Development
12. Tactical Strength and Conditioning

Abstract Formatting Specifications

All abstract submissions must be formatted correctly (see examples below) and include original research- based data to allow for a thorough review. Abstracts that do not meet these criteria will not be accepted. The body of the abstract cannot exceed 3,500 characters (including spaces) when there is no figure or table included. When there is a figure or table associated with the abstract, the text cannot exceed 3,000 characters (including spaces).

Required Information

- □ Abstracts/submissions must contain the following:
  - o Long title (in ALL CAPS) cannot exceed 150 characters (including spaces).
  - o Language: English.
  - o Abstracts must contain the following labeled sections: PURPOSE, METHODS, RESULTS, CONCLUSIONS, and PRACTICAL APPLICATIONS. These section labels must appear in all capital letters on the abstract.
  - o Acknowledgements should be included to denote funding sources and/or conflicts of interest when applicable.
- □ Abstracts/submissions cannot contain the following:
  - o Advertising. Research abstracts should be non-biased, free from solicitations, and should not contain demonstrations of products for the purpose of sales.
  - o Author(s) degrees (MS, PhD, etc.) or credentials (CSCS, FNSCA, etc.).
- □ The following information will be asked during the submission process:
  - o All authors' names.
    - □ If the primary/presenting author is submitting for award consideration, they must be an NSCA Member (professional or student).
    - □ If an author is NSCA certified, their NSCA ID Number must be entered to automatically record NSCA CEUs. If the authors NSCA ID Number is not entered, the author must self-report the CEUs.
  - o All authors' primary institutions/laboratories (institution/laboratory name, city, state).
  - o All authors' professional mailing address, email address, and phone number.
  - o Desired presentation format (i.e., poster and/or lightning podium talk).
    - □ Due to limited availability, not all lightning podium talk requests can be accommodated.
  - o Abstract subject category.

Brand Names

- □ Brand names may only be used in the METHODS section to describe testing procedures when necessary and/or in the ACKNOWLEDGEMENTS section to describe funding or disclose any financial relationships.
- □ Brand names cannot appear in the title (short or long).
- □ Brand names may not be used for promotional purposes. It is at the discretion of the NSCA to determine if the use of the brand name is for descriptive or promotional purposes.
- □ The NSCA reserves the right to replace any brand name with a generic name without notice.

SUBMIT HERE:

Scan the below QR Code with your phone camera, or follow the provided web link below:

Submission Link:

Poster Presentation Abstract 2026

Example Abstract with Figure or Table

Concurrent Validity and Inter-Device Reliability of a Commercial Running Power Meter in Recreational Runners

Hudgins, I. Gillis, J. Pastina, M. Abel, H. Bergstrom, W. Black, S. Best

Recent development of running power (PW) meters has provided endurance runners and coaches with a novel measure of running intensity. Despite support for strong validity and repeatability in well-trained runners, the validity of running power as a measure of metabolic workload in recreational runners has not yet been determined. PURPOSE: The purpose of this study was to determine if changes in PW calculated by a commercial running power meter accurately reflect changes in metabolic workload during running. METHODS: Nine male recreational runners completed the study (age: 28.4±7.4 yr, body mass: 74.7±7.4 kg, height: 180.8±8.1 cm, VO2max: 55.8±7.0 ml/kg/min). All participants completed a 10km run in < 50 minutes in the previous 6 months. On two separate days participants completed a four-stage submaximal treadmill running test (5 min. each at 5, 6, 7, and 8 mi/hr; respiratory exchange ratio < 1.0 at all speeds for all runners) and a maximal graded running test to volitional exhaustion.

PW was recorded by commercial running power meters (Stryd with Wind, Stryd Inc., Boulder, CO). To assess inter-device reliability, one power meter was attached to the right shoe and one to the left during all testing. VO2 (via expired gas analysis), heart rate (HR), and rating of perceived exertion (RPE) were recorded throughout all tests. PW from each device (left and right power meters) across submaximal velocities was used to calculate the intraclass correlation coefficient (ICC 2,1) as well as the standard error of measurement (SEM) in absolute terms (Watts, W) and as a coefficient of variation (CV=100 x (SEM/mean)). The minimal difference (MD=SEM x 1.96 x $\sqrt{2}$) was also determined. A linear regression analysis determined the relationship between PW and VO2. Paired t-Tests determined any differences between devices for PW, and between trials for PW, VO2, HR, and RPE. RESULTS: There was a strong positive relationship between the average device PW and VO2 (Figure 1, r=0.938, p< 0.001). The PW meters showed near-perfect inter-device reliability (ICC=0.999, SEM=1.69 W, CV=0.71%). A significant difference in mean power of 1.00-1.89 W was found between devices at each velocity (5mph, p=0.046; 6mph, p=0.005; 7mph, p=0.008; 8mph, p=0.012). However, this difference is not practically significant, as no participants' between-device PW differed more than the MD of 4.7W. No significant differences were found between trials for all other measures (p≥0.311).

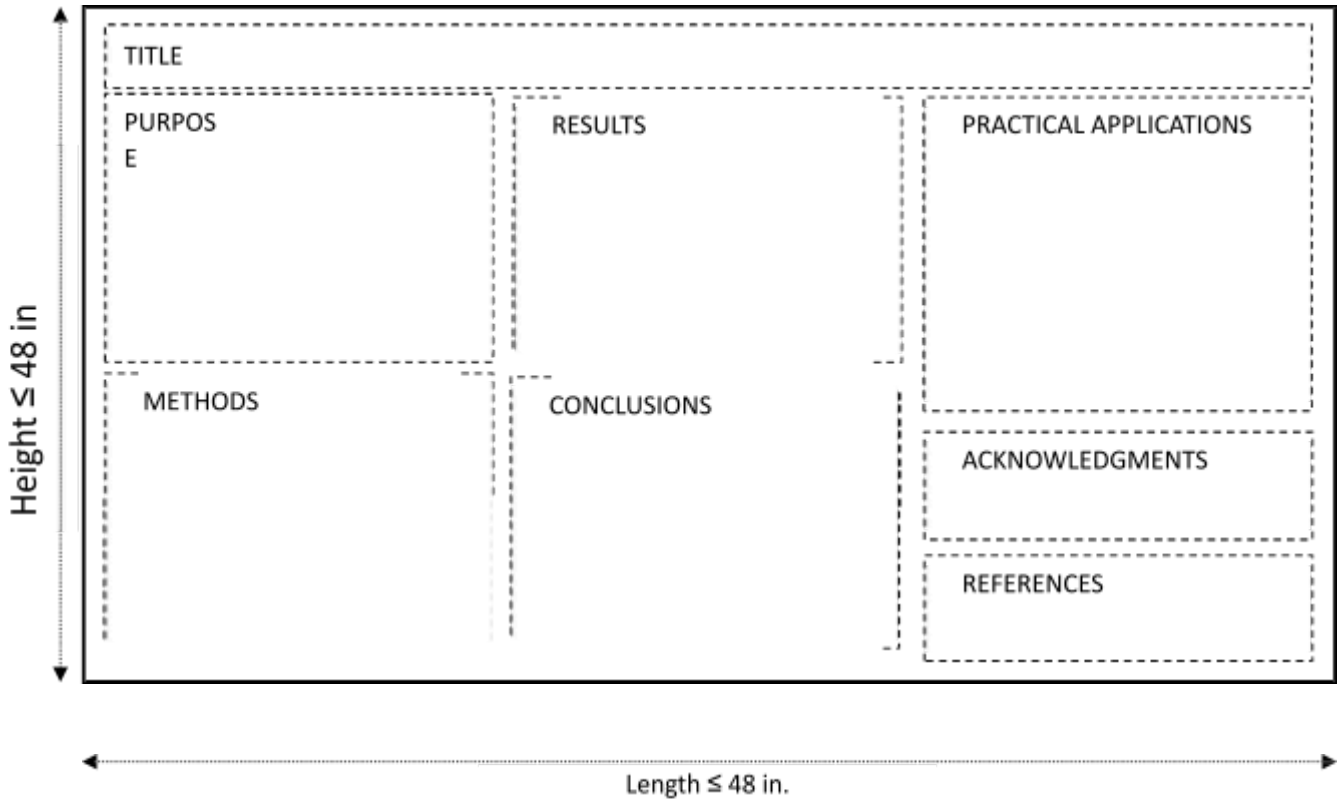
CONCLUSIONS: The strong linear relationship between PW and VO2 indicates Pw calculated by the PW meter accurately reflects differences in metabolic workload during submaximal exercise in recreational runners. PW was also found to be reliable, and small inter-device differences in Pw were less than the standard error of measurement and/or the minimal difference.

PRACTICAL APPLICATION: These data suggest runners and coaches can use Pw to validly and reliably indicate metabolic demand at endurance running velocities.

Poster Abstract Presentation Guidelines

- All poster presentations should be printed on one uniform poster sheet with dimensions not exceeding 36 × 48 inches (height × width).
- Poster abstract presentations abstract presentations must be consistent with the contents of the accepted abstract, and include the following sections: purpose, methods, results, conclusions, and practical applications.
- The Research Committee recommends one of the two following layouts (Traditional Poster or #betterposter) as a general guideline for all poster presentations:

I. Traditional Poster Design



Example of a Traditional Poster

2022 Undergraduate Student Outstanding Poster Presentation Winner Elise Choquette – Creighton University

Creighton UNIVERSITY
College of Arts and Sciences
Department of Exercise Science and Pre-Health Professions

EFFECT OF A FATIGUING PROTOCOL ON MAXIMAL AND RAPID FORCE PRODUCTION IN PERSONS WITH PARKINSON'S DISEASE AND OLDER ADULTS

Elise Choquette, Mitchel A. Magrini, Mae Grahek, Jacob Siedlik, Kelley G. Hammond
Creighton University

Introduction

Persons with Parkinson's Disease (PD) experience neuromuscular disruption leading to resting tremor and bradykinesia (Figure 1). In comparison to non-impaired older adults (OA), they may exhibit a difference in muscle activation while performing maximal contractions[1-3].

Figure 1. Description of symptoms of Parkinson's Disease

Individuals with PD exhibit fatigue resistance across repeated contractions[4-5], which could be due to substantial type-1 motor unit reorganization compared to age-matched OA[3]. Because of the potential shift in fiber type, peak torque and rate of torque development may be reduced in PD compared to OA[6]. Further, fatigue resistance may be observed in the PD compared to the OA.

The purpose of this study was to determine the effect of a fatiguing isometric knee extension protocol on maximal force and rapid force production in persons with PD and non-impaired older adults.

Methods

Twenty individuals (PD=11, OA=9) volunteered for this study. Following a warm-up and familiarization, participants performed two maximal isometric Contractions (MVIC) of the knee extensors. Following a recovery period, participants completed a fatiguing protocol that consisted of 5-sec maximal isometric voluntary contractions of the quadriceps femoris with 5-sec rest for a total of 30 contractions. During this fatiguing protocol, participants were instructed to push their leg against the cuff (activating their quadriceps muscles) as hard and as fast as they could.


Figure 2. Illustration of the Biodex and EMG placement

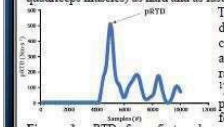


Figure 3. pRTD from first order derivative torque signal

The highest torque (Nm) achieved during the first, middle, and last contraction was calculated and defined as peak torque (PT). Additionally, peak rate of force development (pRFD; Nm/s^{-1}) was assessed as the highest positive peak using the first derivative of the force signal and determined as the highest rate of change in the force time curve (Figure 3). PT and pRTD were normalized (PTn and pRTDn, respectively) to the maximal PT and pRTD collected from the highest MVIC contraction. Fatigue in PT, PTn, pRTD, and pRTDn was calculated as a percent decline using the following equation: %decline=100–100(last Repetition/Initial Repetition). Independent samples t-tests were conducted to investigate the differences in %decline in the PD and OA groups. Separate 2 (Group) × 3 (Contraction) repeated measures ANOVA were run to investigate the differences in PT, PTn, pRTD, and pRTDn between the PD and OA group during the fatiguing knee extension protocol.

Results

Statistical analysis revealed a significant difference in %decline in pRTD (PD: 3.1±55.5 vs. OA: -150.3 ± 143.8, p = 0.017) but not in PT (PD: 31.5 ± 18.3 vs. OA: 33.7 ± 17.0, p = 0.611), PTn (PD: 13.9 ± 28.2 vs. OA: 13.3 ± 45.4, p = .195), pRTDn (PD: 26.6 ± 41.4 vs. OA: -27.7 ± 96.6 p = 0.950) (Figure 4).

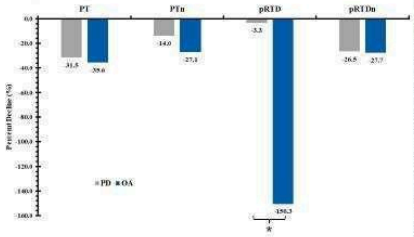


Figure 4. Percent decline in PT, PTn, pRTD, and pRTDn in Parkinson's Disease individuals and older adults. * = Significant difference between PD and OA ($p \leq 0.05$); peak torque (PT), normalized peak torque (PTn), peak rate of torque development (pRTD), normalized peak rate of torque development (pRTDn).

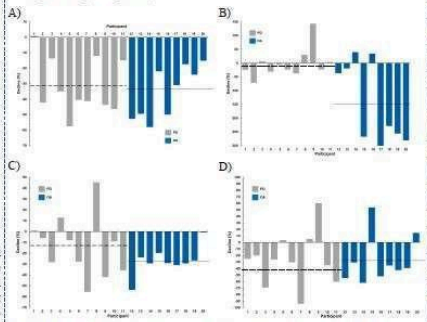


Figure 5. Individual percent decline in PD (gray) and OA (Blue) in **A)** PT, **B)** pRTD, **C)** PTn, and **D)** pRTDn across the thirty repetitions; peak torque (PT), normalized peak torque (PTn), peak rate of torque development (pRTD), normalized peak rate of torque development (pRTDn). Black dashed line represents the average decline in PD and the black dotted line represents the average decline in OA.

There was no group × time interaction for PT (p=0.806), PTn (p=0.774), pRTD (p=0.871), or pRTDn (p=0.945). However, a significant main effect for time was revealed in PT (First rep: 135.1 ± 40.9 Nm vs. Middle rep: 116.8 ± 32.6 Nm vs. Last rep: 102.9 ± 26.8 Nm, p=0.001), PTn (First rep: 1.1 ± 0.5 Nm/MVIC vs. Middle rep: 0.9 ± 0.4 Nm/MVIC vs. Last rep: 0.8 ± 0.4 Nm/MVIC, $p \leq 0.001$), pRTD (First rep: 795.9 ± 624.3 Nm/s^{-1} vs. Middle rep: 535.1 ± 413.5 Nm/s^{-1} vs. Last rep: 497.6 ± 396.2 Nm/s^{-1}, p = 0.015), and pRTDn (First rep: 7.1 ± 3.2 Nm/s^{-1} vs. Middle rep: 4.9 ± 5.8 Nm/s^{-1} vs. Last rep: 4.5 ± 5.3 Nm/s^{-1}, p = 0.024) (Figure 6).

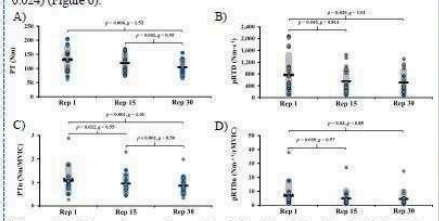


Figure 6. Paired samples t-tests between Rep 1, Rep 15, and Rep 30 in **A)** PT, **B)** pRTD, **C)** PTn, **D)** pRTDn; peak torque (PT), normalized peak torque (PTn), peak rate of torque development (pRTD), normalized peak rate of torque development (pRTDn). Gray dots represent OA. Blue dots represent persons with PD.

Conclusions

These data demonstrate a significant difference in pRTD fatigue between the PD and OA groups. However, the difference is negated when pRTD is normalized to account for PT (pRTDn). The elimination of the differences in pRTDn could be due to the PD having an impaired capacity for rapid torque production compared to OA. These data suggest that the potential fiber type shift in the PD group may contribute to fatigue resistance[3]. The % decline in PT is similar in PD compared to the OA. However, pRTD % decline is greater in the PD compared to the OA suggesting that PD may influence RTD to a greater extent than PT production.

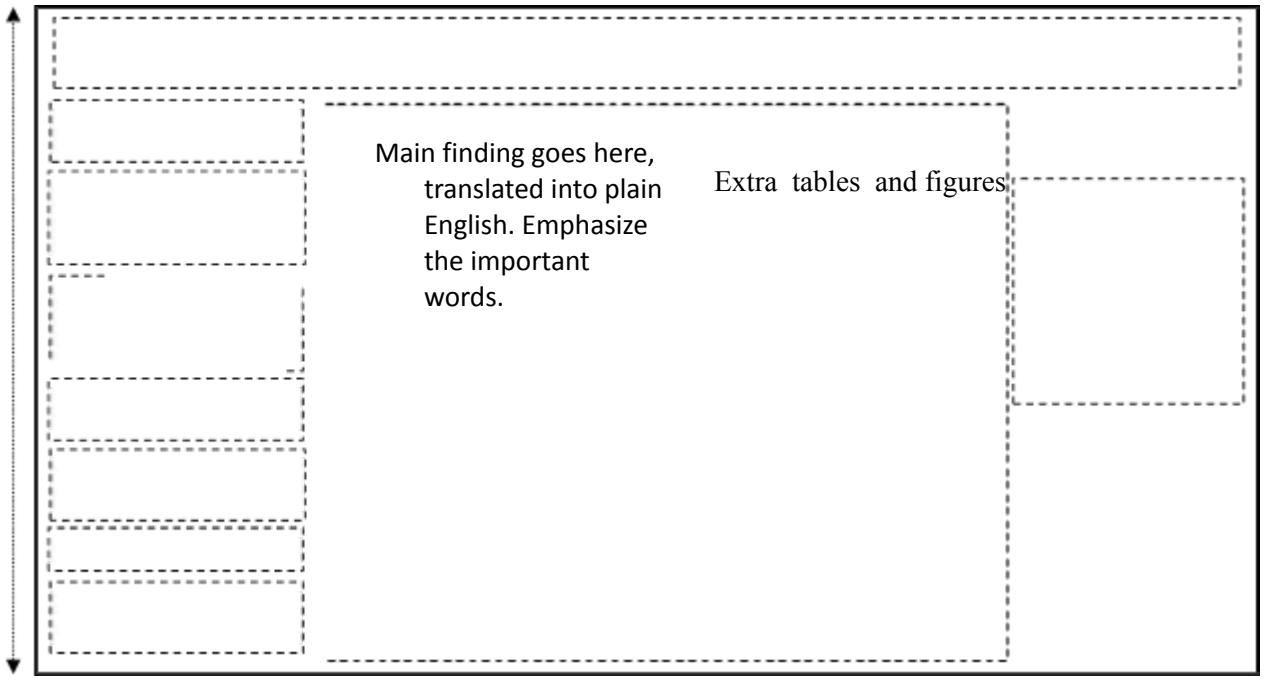
Practical Applications

Coaches, clinicians, and practitioners may use the reduction in the rate of torque production in older adults and persons with Parkinson's Disease following a fatiguing protocol to improve exercise programing.

References

[1]N.A. Kelly, M.P. Ford, D.O. Standaert, R.L. Watts, C.S. Bickel, D.R. Moellering, S.C. Tuggle, J.Y. Williams, L. Lieb, S.T. Windham, M.M. Bamman, Novel, high-intensity exercise prescription improves muscle mass, mitochondrial function, and physical capacity in individuals with Parkinson's disease, Journal of applied physiology 116(5) (2014) 582-92.
[2]M.H. Ross, A. Lokkegaard, S. Sonne-Holm, H.R. Jensen, Effects of training and weight support on muscle activation in Parkinson's disease, Journal of electromyography and kinesiology : official journal of the International Society of Electrophysiological Kinesiology 23(6) (2013) 1499-504.
[3]N.A. Kelly, K.O. Hammond, C.S. Bickel, S.T. Windham, S.C. Tuggle, M.M. Bamman, Effects of aging and Parkinson's disease on motor unit remodeling: influence of resistance exercise training, Journal of applied physiology 124(4) (2018) 884-894.
[4] Stevens-Lapsley, R.M. Kluger, M. Schenkman, Quadriceps muscle weakness, activation deficits, and fatigue with Parkinson disease, Neurorehabilitation and neural repair 26(5) (2012) 515-21.
[5]G.O. Hammond, E.F. Pfeiffer, M.S. LaDoux, H.K. Schilling, Neuromuscular rate of force development deficit in Parkinson disease, Clinical biomechanics 45(1879-1271 (Electronic)) (2017) 14-18.
[6]Hammond, K.O., Magrini, M.A., Siedlik, J.A., Bickel, C.S., Bamman, M.M. (2021) Influence of muscle fatigue on contractile twitch characteristics in persons with parkinson's disease and older adults: A pilot study. *Clin Parkinsonism Relat Disord*, Aug, 2021.

II. #Betterposter Design



Example of a #betterposter

ISOMETRIC MID-THIGH PULL vs. PORTABLE DUAL-HANDLE DEVICE:

Drake A. Eserhaut, Dimitrije Cabarkapa, Nicolas M. Philipp, and Andrew C. Fry

Jayhawk Athletic Performance Laboratory – Wu Tsai Human Performance Alliance, University of Kansas, Lawrence, KS, USA

Background

The isometric mid-thigh pull test permits the collection of multiple metrics related to athletic performance, such as peak force (PF), time to peak force (TTPF), and force at specific time points (e.g, 100, 150, 200 ms) (1). However, practitioners are often constrained to a weight room setting making field-based athlete testing difficult. In addition, there is little research comparing portable systems with alternative grip positions to the standard pronated grip of barbell-based IMTP set-ups.

Research Questions

The purpose of this study was to compare force-time variables collected during a maximal effort isometric mid-thigh pull performed within a custom-built squat rack (IMTP), to an isometric pull performed on a dual-handle portable device with a neutral grip (DHP).

Methods and Materials

20 recreationally trained individuals, possessing ≥2 years of resistance training experience participating in this study.

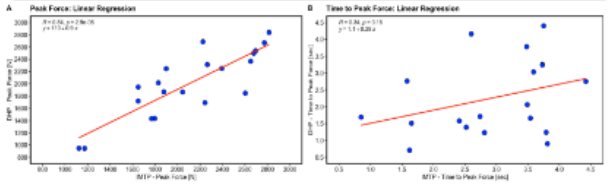
3 maximal effort 4-second trials were performed on both rigs, in a randomized, counterbalanced manner.

A commercially available force platform (Sparta Science, Menlo Park, CA, USA) which samples at 1,000Hz was used in both the IMTP and DHP conditions **(SEE IMAGES)**.

Figure 1. (A) Isometric Mid-Thigh Pull (IMTP) Rig; (B) Dual-Handle Portable (DHP) Rig

Results

Variable [unit]	IMTP	DHP	p-value	Cohen's *d*	Pearson's *r*
PF [N]	2107.86 ± 509.82	2005.16 ± 543.72	0.14	0.35	0.84*
TTPF [s]	2.17 ± 1.17	2.94 ± 0.95	0.01*	0.62	0.34
$Force_{100}$ [N]	738.14 ± 351.42	656.75 ± 319.48	0.19	0.30	0.68*
$Force_{150}$ [N]	1003.80 ± 309.57	872.73 ± 787.35	0.08	0.41	0.59*
$Force_{200}$ [N]	1268.15 ± 355.32	1088.86 ± 426.16	0.01*	0.61	0.73*
$Force_{250}$ [N]	1474.84 ± 418.78	1220.19 ± 380.63	<0.01*	0.77	0.66*
%Peak $Force_{100}$	35.88 ± 15.07	33.79 ± 14.54	0.45	0.17	0.65*
%Peak $Force_{150}$	48.74 ± 12.78	44.67 ± 16.37	0.24	0.27	0.50*
%Peak $Force_{200}$	60.94 ± 12.16	56.07 ± 16.65	0.12	0.36	0.38
%Peak $Force_{250}$	70.14 ± 10.58	61.83 ± 14.01	0.03*	0.52	0.17



Conclusion

Isometric strength testing using DHP appears to be a near valid method for the assessment of maximal effort isometric strength, showcasing only 5% systemic error. However, time-sensitive metrics seem less promising.

Future Directions:

- Test-retest reliability should be performed on more portable systems.

Acknowledgements

Thank you to the Wu Tsai Human Performance Alliance and the Joe and Clara Tsai Foundation.

References

1. Comfort, P, Dos'Santos, T, Beckham, GK, Stone, MH, Guppy, SN, Haff, GG. Standardization and Methodological Considerations for the Isometric Midthigh Pull. Strength & Conditioning Journal 41(2): 57. 2019.

JAYHAWK ATHLETIC PERFORMANCE LABORATORY

Wu Tsai Human Performance Alliance

Poster Printing & Shipping Option

The NSCA has partnered with posterpresentation.com to offer discounted poster printing with shipping directly to the National Conference (or another location). This is a paid service and completely optional. For more information or to order visit:
https://www.posterpresentations.com/groups/NSCA/nsca-research-poster-printing.html

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Abstract Review Process

Researchers, who are active NSCA KS State Advisory Board members, are responsible for reviewing the NSCA KS State Clinic Abstracts to assure that the correct formatting has been applied. Abstracts that do not meet the previously stated formatting criteria will be rejected. The abstract will then undergo blinded review for scientific content, appropriate methodology, correct statistical analysis, proper interpretation of results, and contribution to the field of strength and conditioning. Abstracts submitted as "From the Field" reports will be vetted for practical relevance, correct statistical analysis (if applicable), and detailed writing on the strength & conditioning/sport science focused data collection and/or data analysis procedure. If a reviewer suggests that an abstract be rejected, the NSCA KS State Director will have to independently re-review the abstract in question. In this case, the NSCA KS State Director will have final authority to accept or reject the abstract.

Submission Checklist

- Abstract is written in English
- Research study or "From the Field" report is original and has not been previously published or presented
- All required sections are provided and labeled
- PURPOSE, METHODS, RESULTS, CONCLUSIONS, and PRACTICAL APPLICATIONS
- All data are completed and present at the time of submission
- No brand names are included (only permitted in METHODS and/or ACKNOWLEDGEMENTS sections to describe procedures).
- No brand names appear in the long or short title.
- Any funding is described in the acknowledgements section.
- Any potential conflicts of interest are described in the acknowledgements section.