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Assistant Professor  
Department of Health Science and Technology  
The Faculty of Medicine  
Respiratory and Critical Care  
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## Research profile

Research interests:

**Respiratory muscle fatigue and respiratory muscle training**

**Cardiovascular function in health and disease**

**Experimental physiology**

**Autonomic cardiovascular control**

**Cardiopulmonary exercise testing (CPET).**

**Spinal cord injury, mechanical ventilation, respiratory disease**

## Qualifications

Health and Exercise Science, Ph.D., PHYSICAL ACTIVITY BARRIERS IN WHEELCHAIR USERS, AND CARDIOMETABOLIC HEALTH EFFECTS OF UPPER-BODY ROWING EXERCISE IN INDIVIDUALS WITH SPINAL CORD INJURY

15 Nov 2018 → 16 Jun 2022

Award Date: 16 Jun 2022

Sports Science, MSc, EFFECT OF INTENSE EXERCISE HYPERPNEA ON CEREBRAL BLOOD FLOW AND OXYGENATION

2015 → 2017

Award Date: 27 Jun 2017

Sports Science, BSc, Investigation of the acute effects of low intensity physical activity on post-prandial blood glucose levels in healthy, non-obese, inactive men and women

2010 → 2013

## Employment

### Assistant Professor

Assistant Professor

Department of Health Science and Technology

The Faculty of Medicine

Gistrup, Denmark

1 Apr 2024 → 31 Dec 4712

### Assistant Professor

Assistant Professor

The Faculty of Medicine

Gistrup, Denmark

1 Apr 2024 → 31 Dec 4712

### Assistant Professor

Assistant Professor

Respiratory and Critical Care

The Faculty of Medicine

Gistrup, Denmark

1 Apr 2024 → 31 Dec 4712

### **Medlemskab**

The Scandinavian Physiological Society

Sweden

1 Jan 2022 → present

### **Medlemskab**

Danish Cardiovascular Academy

Denmark

1 Jan 2021 → present

## **Research outputs**

### **A pull function attachment to manual wheelchairs: a case report on usability and shoulder pain in people with spinal cord injury**

Krogshede, M., Holgaard, C., Valkær, J. A., Madeleine, P. & Hansen, R. K., 28 Apr 2025, In: Spinal Cord Series and Cases. 11, 1, 12.

### **Statistical analysis plan for the PULL&GO – a cross-sectional study focusing on the surface electromyographic activations on traditional and pulling propulsion during manual wheelchair use**

Krogshede, M., Hansen, R. K. & Madeleine, P., 28 Jan 2025, 13 p.

### **Impact of upper-body ergometer rowing exercise on aerobic fitness and cardiometabolic disease risk in individuals with spinal cord injury: A 6-month follow-up study**

Hansen, R. K., Laessoe, U., Samani, A., Møllergaard, M., Rasmussen, R. W., Handberg, A. & Larsen, R. G., Nov 2024, In: The journal of spinal cord medicine. 47, 6, p. 996-1006 11 p.

### **Moving together - benefits of an online dance program on physical and mental health for older women: an exploratory mixed-method study**

Hansen, R. K., Jochum, E., Egholm, D., Villumsen, M. & Hirata, R. P., 2 May 2024, In: BMC Geriatrics. 24, 1, 392.

### **Carotid and brachial artery changes after 12 weeks of upper-body rowing exercise in spinal cord-injured humans**

Hansen, R. K., Bering, R., Samani, A. & Larsen, R. G., 2024, *Physiology in Focus 2024 : Abstracts*. p. 272-273

### **Moving together-benefits of a 12-week online dance training intervention on static and dynamic postural stability and gait speed in older women: an exploratory pre-post study**

Hansen, R. K., Jochum, E., Egholm, D., Villumsen, M. & Hirata, R. P., 2024, In: Frontiers in Sports and Active Living. 6, 1384387.

### **Moving Together - benefits of an online dance program on physical and mental health for older adults: a mixed-method study**

Hansen, R. K., Jochum, E., Egholm, D., Villumsen, M. & Hirata, R. P., 1 Nov 2023, Research Square Platform LLC, 31 p.

### **Moving together: Effect of a 12-week online dance training intervention on static and dynamic postural stability and gait speed in older adults. A pre-post intervention study**

Hansen, R. K., Jochum, E., Egholm, D., Villumsen, M. & Hirata, R. P., 1 Nov 2023, medRxiv, 24 p.

### **Correction to: The authors respond to: sympathetic function as key player in VO2 max and brachial artery diameter (European Journal of Applied Physiology, (2023), 123, 7, (1597-1598), 10.1007/s00421-023-05218-z)**

Hansen, R. K., Samani, A., Handberg, A., Møllergaard, M., Figlewski, K., Thijssen, D. H. J., Gliemann, L. & Larsen, R. G., Sept 2023, In: European Journal of Applied Physiology. 123, 9, 1 p., 2101.

**The authors respond to: sympathetic function as key player in VO2 max and brachial artery diameter**

Hansen, R. K., Samani, A., Handberg, A., Møllgaard, M., Figlewski, K., Thijssen, D. H. J., Gliemann, L. & Larsen, R. G., Jul 2023, In: *European Journal of Applied Physiology*. 123, 7, p. 1597-1598 2 p.

**Rowing exercise increases cardiorespiratory fitness and brachial artery diameter but not traditional cardiometabolic risk factors in spinal cord-injured humans**

Hansen, R. K., Samani, A., Laessøe, U., Handberg, A., Møllgaard, M., Figlewski, K., Thijssen, D. H. J., Gliemann, L. & Larsen, R. G., Jun 2023, In: *European Journal of Applied Physiology*. 123, 6, p. 1241-1255 15 p.

**Sund i AAU SUND - men hvor sund?**

Hansen, R. K., Larsen, R. G. & Franch, J., 12 Apr 2023

**Effects of obesity on skeletal muscle microvascular function in children**

Larsen, R. G., Hansen, R. K., van de Crujjs, C., Handberg, A., Frøkjær, J. B., Vestergaard, E. T., Eggertsen, C. N. & Hagstrøm, S., 2023, In: *Journal of Vascular Research*. 60, Suppl. 1, p. 22

**Reliability of Running Economy Measurements: Influence of Shoe Familiarisation**

Nielsen, A., Heyde, C., Simonsen, M. B., Larsen, R. G., Hansen, R. K., Kersting, U., de Zee, M. & Brund, R. B. K., Dec 2022, In: *International Journal of Sports Medicine*. 43, 13, p. 1113-1117 5 p.

**Upper-body Rowing Increases Cardiorespiratory Fitness But Not Flow-mediated Dilation In Individuals With Spinal Cord Injury**

Hansen, R. K., Samani, A., Laessøe, U., Figlewski, K., Gliemann, L., Thijssen, D. H. J. & Larsen, R. G., 1 Sept 2022, In: *Medicine and Science in Sports and Exercise*. 54, Suppl. 9, p. 681

**Correlates of physical activity in wheelchair users with spinal cord injury: a cross-sectional study**

Valdés, D. A., Hansen, R. K., E. Cowan, R. & Wilroy, J. D., Jul 2022, In: *American Journal of Physical Medicine and Rehabilitation*. 101, 7 Suppl.

**Romaskiner giver kørestolsbrugere bedre mulighed for træning**

Hansen, R. K., 28 Jun 2022

**Correction to: Wheelchair-modified ergometer rowing exercise in individuals with spinal cord injury: a feasibility, acceptability, and preliminary efficacy study (Spinal Cord Series and Cases, (2022), 8, 1, (48), 10.1038/s41394-022-00518-6)**

Hansen, R. K., de Wit, J. L. J., Samani, A., Laessøe, U., Figlewski, K. & Larsen, R. G., 16 May 2022, In: *Spinal Cord Series and Cases*. 8, 1, 55.

**Wheelchair-modified ergometer rowing exercise in individuals with spinal cord injury: a feasibility, acceptability, and preliminary efficacy study**

Hansen, R. K., de Wit, J. L. J., Samani, A., Laessøe, U., Figlewski, K. & Larsen, R. G., 30 Apr 2022, In: *Spinal Cord Series and Cases*. 8, 1, 48.

**Sex differences in microvascular function across lower leg muscles in humans**

Molbo, L., Hansen, R. K., Østergaard, L. R., Frøkjær, J. B. & Larsen, R. G., Jan 2022, In: *Microvascular Research*. 139, 104278.

**Adaptive rowing exercise for people with spinal cord injury**

Hansen, R. K., 2022, *Why research matters 2022: A collection of spinal cord research from around the world*. Spinal Research Institute, p. 8 1 p.

**Effects of upper-body ergometer rowing exercise on aerobic fitness and cardiometabolic disease risk in individuals with spinal cord injury: a 6-months follow-up study**

Hansen, R. K., Laessøe, U., Samani, A., Handberg, A. & Larsen, R. G., 2022, In: *Acta Physiologica*. 236, Suppl. 725, p. 234-235

**Physical activity barriers in wheelchair users, and cardiometabolic health effects of upper-body rowing exercise in individuals with spinal cord injury**

Hansen, R. K., 2022, Aalborg Universitetsforlag. 77 p.

**Studie i træning: Romaskine**

Hansen, R. K., 2022, In: RYK. 44, 3, p. 29

**Sociodemographic characteristics associated with physical activity barrier perception among manual wheelchair users**

Hansen, R. K., Samani, A., Laessoe, U., Larsen, R. G. & Cowan, R. E., Oct 2021, In: Disability and health journal. 14, 4, 101119.

**Effekt af 12-ugers kørestolsmodificeret ro-træning**

Hansen, R. K., Jun 2021, In: Parasport Viborg. 2, p. 5-9

**Physical Activity Barriers in Danish Manual Wheelchair Users: A Cross-sectional Study**

Hansen, R. K., Larsen, R. G., Laessoe, U., Samani, A. & Cowan, R. E., Apr 2021, In: Archives of Physical Medicine and Rehabilitation. 102, 4, p. 687-693

**Effekt af træning på hjerte-/kredsløbsfunktion og metaboliske faktorer hos rygmarvsskadede kørestolsbrugere**

Hansen, R. K., 2021, In: Aalborg Roklubs Medlemsblad. 80, 2, p. 18-19

**Forskning i sundhed: Effekt af rotræning**

Hansen, R. K., 2021, In: RYK. 43, 2, p. 34-35

**Mange brugere af manuelle kørestole træner ikke**

Hansen, R. K., 2021, In: Handicap - Nyt. 96, 2, p. 13-14

**Effect of wheelchair-modified rowing exercise on cardiometabolic risk factors in spinal cord injured wheelchair users: protocol for a randomised controlled trial**

Hansen, R. K., Samani, A., Laessoe, U., Handberg, A. & Larsen, R. G., 16 Oct 2020, In: BMJ Open. 10, 10, e040727.

**Commentaries on Viewpoint: Physiology and fast marathons**

Santos-Concejero, J., González-Mohino, F., González-Ravé, J. M., Perrey, S., Dewolf, A. H., Yates, B. A., Ušaj, A., Debevec, T., González-Rayas, J. M., Rayas-Gómez, A. L., González-Yáñez, J. M., Lepers, R., Stapley, P., Louis, J., Proessl, F., Nikolaidis, P. T., Knechtle, B., Muniz-Pumares, D., Hunter, B. & Bottoms, L. & 61 others, Bontemps, B., Valenzuela, P. L., Boullousa, D., Del Coso, J., Blagrove, R. C., Hayes, P. R., Millet, G. P., Malatesta, D., de Almeida Costa Campos, Y., Pereira Guimarães, M., Macedo Vianna, J., Fernandes da Silva, S., Silva Marques de Azevedo, P. H., Paris, H. L., Leist, M. A., Lige, M. T., Malysa, W., Oumsang, A. S., Sinai, E. C., Hansen, R. K., Secher, N. H., Volianitis, S., Hottenrott, L., Hottenrott, K., Gronwald, T., Senefeld, J. W., Fernandes, R. J., Vilas-Boas, J. P., Riveros-Rivera, A., Böning, D., Craighead, D. H., Kipp, S., Kram, R., Zinner, C., Sperlich, B., Holmberg, H.-C., Muniz-Pardos, B., Sutehall, S., Angeloudis, K., Guppy, F. M., Bosch, A., Pitsiladis, Y., Andrade, D. C., Del Rio, R., Ramirez-Campillo, R., Lopes, T. R., Silva, B. M., Ives, S. J., Weyand, P. G., Brietzke, C., Franco-Alvarenga, P. E., Meireles dos Santos, T., Pires, F. O., Layec, G., Hoogkamer, W., Balestrini, C. S., Goss, C. S., Gabler, M. C., Escalera, A., Bielko, S. A. & Chapman, R. F., 1 Apr 2020, In: Journal of Applied Physiology. 128, 4, p. 1069-1085 17 p.

**CO2 supplementation dissociates cerebral oxygenation and middle cerebral artery blood velocity during maximal cycling**

Hansen, R. K., Nielsen, P. S., Schelske, M. W., Secher, N. H. & Volianitis, S., Mar 2020, In: Scandinavian Journal of Medicine & Science in Sports. 30, 3, p. 399-407 9 p.

**Perceived Barriers Of Physical Activity In Danish Manual Wheelchair Users**

Hansen, R. K., Larsen, R. G., Læssøe, U., Samani, A. & E. Cowan, R., 2020, In: Medicine and Science in Sports and Exercise. 52, 7, suppl., p. 288-289

**During maximal exercise frontal lobe oxygenation decreases despite elevation in middle cerebral artery flow velocity**  
Hansen, R. K., Nielsen, P., Schelske, M. W., Secher, N. & Volianitis, S., 2019, *Book of abstracts from 'Physiology 2019'*. p. 160 1 p. C058

**Effects of resistance training frequency on short-term neuromuscular adaptations in untrained participants**  
Hansen, R. K., Jørgensen, R. R., Nielsen, P. S., Osuna-Florentz, P. & Kristiansen, M. V., 2017, In: *Advances in Physical Education*. 7, 4, p. 383-398 80143.

**Breaking up prolonged sitting does not alter postprandial glycemia in young, normal-weight men and women**  
Hansen, R. K., Andersen, J. B., Vinther, A. S., Pielmeier, U. & Larsen, R. G., 2016, In: *International Journal of Sports Medicine*. 37, 14, p. 1097-1102

**The short-term effects of high vs. low resistance training frequencies on neuromuscular adaptations in untrained subjects**  
Hansen, R. K., Osuna-Florentz, P., Nielsen, P. S., Jørgensen, R. R. & Kristiansen, M., 2016, *Program & Abstracts, 8th Annual Meeting of the Danish Society of Biomechanics, 7 October 2016, Hillerød, Denmark*. Koblauch, H. (ed.). Danish Society of Biomechanics, p. 15

## Prizes

### Spinal Research Institute's 2022 SCI Writing Prize

Hansen, R. K. (Recipient), 11 Oct 2022

## Press/Media

### Effekt af træning på hjerte-/kredsløbsfunktion og metaboliske faktorer hos rygmarvsskadede kørestolsbrugere

Hansen, R. K.

25/08/2020

1 Media contribution

### Effekt af træning på hjerte- og kredsløbsfunktion

Hansen, R. K.

01/07/2020

1 Media contribution

### Salsa er sundt: Online-dans gav målbar forbedring af ældres fysiske og mentale helbred

Hansen, R. K.

21/11/2023 → 27/11/2023

4 items of Media coverage

### Salsa og moderne dans forbedrer ældres selvopfattede livskvalitet og kan potentielt mindske faldrisiko

Hansen, R. K.

24/11/2023

1 item of Media coverage

### Salsa skal forebygge faldulykker hos ældre

Hansen, R. K.

08/01/2023 → 08/01/2023

10 items of Media coverage

## Awards

### Moving Together - Online Dance Intervention for mental and physical health in older adults

Pessoto Hirata, R. (PI), Hansen, R. K. (Project Coordinator), Jochum, E. (CoPI), Villumsen, M. (Project Participant) & Egholm, D. (Project Participant)

Tryg Foundation: DKK802.72

01/09/2022 → 31/08/2023

## Projects

### **Moving Together - Online Dance Intervention for mental and physical health in older adults**

Pessoto Hirata, R. (PI), Hansen, R. K. (Project Coordinator), Jochum, E. (CoPI), Villumsen, M. (Project Participant) & Egholm, D. (Project Participant)

Tryg Foundation

01/09/2022 → 31/08/2023