

**Wesselius Oncke (Wes) Zimmermann MD, PhD, FECSM\***  
*Curriculum Vitae*

\*Fellow European College of Sports Medicine

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**Address** Street: Vogelkersstraat 88  
City: Den Haag  
Postal Code: 2565 CM  
Country: The Netherlands, Europe

**Phone** +31651163409

**Email** wesselzimmermann@hotmail.com or wo.zimmermann@mindef.nl

### Education

2018-2019	PhD, University of Utrecht Compilation of thematic articles published 2015-2019	Utrecht, The Netherlands
1987-1995	MD, University of Leiden Medical school, internships and thesis (equivalent masters)	Leiden, The Netherlands
1983-1987	BA, University of Nebraska, with distinction Independent studies (thematic): children in sports	Lincoln, Nebraska, USA
1976-1983	Diploma, Gymnasium Haganum (High school)	The Hague, The Netherlands

### Postgraduate Training

2013	Aero Medical Examiner (AME)	Soesterberg, The Netherlands
2001-2005	Specialist in Occupational Medicine Four year program, one day per week	Nijmegen, The Netherlands
1996-2000	Specialist in Primary Care Sports Medicine Four year program, full-time	Utrecht, The Netherlands

### Current Position

2008-present	Senior Primary Care Sports Medicine Specialist & Researcher (lieutenant colonel, LTC) Royal Netherlands Army, Personnel Command	Utrecht, The Netherlands
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### Professional Experience

2009-present	Sports Medicine Physician, Private practice (part-time)	The Hague, The Netherlands
2000-2008	Occupational Medicine Specialist Royal Netherlands Army (civilian)	Harderwijk, The Netherlands

### Academic appointments

2020-present	Adjunct Professor Department of Military & Emergency Medicine Uniformed Services University of the Health Sciences Primary department of affiliation	Bethesda, MD, USA
2016-2020	Adjunct Associate Professor Department of Military & Emergency Medicine Uniformed Services University of the Health Sciences Primary department of affiliation	Bethesda, MD, USA
2015-2020	Adjunct Associate Professor Department of Family Medicine Uniformed Services University of the Health Sciences Secondary department of affiliation	Bethesda, MD, USA
2012-2015	Adjunct Assistant Professor Department of Family Medicine Uniformed Services University of the Health Sciences	Bethesda, MD, USA

### **Licensure**

2005-2028	Registered specialist in Occupational Medicine (The Netherlands) License number BIG 090 451 899 01 ( <a href="http://www.bigregister.nl">www.bigregister.nl</a> )
2000-2025	Registered specialist in Primary Care Sports Medicine (The Netherlands) License number BIG 090 451 899 01 ( <a href="http://www.bigregister.nl">www.bigregister.nl</a> )

### **Other Positions and Employment (part-time)**

2012-2018	Physician for Occupational Medicine MBO Amersfoort Junior College	Amersfoort, The Netherlands
2010-2018	Physician for Sports Medicine MBO Amersfoort Junior College	Amersfoort, The Netherlands
2004-2018	TV commentator for Olympic Diving Eurosport, Olympics 2004, 2008, 2012	Amsterdam, The Netherlands
1998-2000	High Performance Manager Diving Royal Netherlands Swimming Federation	Utrecht, The Netherlands
1988-2009	Diving Coach, self-employed	Amersfoort, The Netherlands

### **Professional Memberships and activities**

2022-present	Member, High Diving Technical Committee World Swimming Federation (World Aquatics ~ FINA)	Lausanne, Switzerland
2022-present	Member, International Testing Agency (ITA) Medical advisor, anti-doping	Lausanne, Switzerland
2021-present	Member, Editorial Board Netherlands Journal of Military Medicine (NMGT)	Utrecht, The Netherlands
2020-present	Member, Medical Committee European Swimming Federation (European Aquatics = LEN)	Nyon, Switzerland
2020-2022	Chair, Working Group, Exercise-Related Leg Pain	Utrecht, The Netherlands

	Society of Sports Medicine (VSG)	
2016-2021	Member, NATO Research Task Group 238 Reducing musculoskeletal injuries	Paris, France
2017-present	Digital librarian, USA Diving Inc.	Indianapolis, IN, USA
2017-2022	Member, Doping Control Review Board World Swimming Federation (FINA)	Lausanne, Switzerland
2014	Co-author, Consensus Statement on Nutrition for the Aquatic Sports, World Swimming Federation (FINA)	Lausanne, Switzerland
2009-present	Member, American College of Sports Medicine	Indianapolis, IN, USA

### **Team (sports medicine) Physician assigned to a Dutch National Team**

1996	Water Polo boys, European Junior Championships	Istanbul, Turkey
1998	Swimming, European Senior Championships	Sheffield, England
1999	Soccer boys, NL vs Scotland and Ireland	Den Helder, The Netherlands
1999	Soccer women, NL vs USA	Milwaukee and Chicago, USA
1999	Soccer girls, 6 nations tournament	The Netherlands
1999	Soccer women, NL vs Norway	Hamar, Norway
1999	Soccer women, NL vs Germany	Cologne, Germany
1999	Water Polo women, NL vs USA	Los Angeles, USA
2000	Diving, European Junior Championships	Istanbul, Turkey
2000	Short track speed skating, World Cup	ChanChung, China
2001	Universiad, physician for the Dutch delegation	Beijing, China
2002	Water Polo women, NL vs Russia	Kirishi, Russia
2003	Water Polo women, NL vs Russia	Kirishi, Russia
2004	Diving, World Junior Championships	Belem, Brazil
2005	Judo, European Championships	Rotterdam, The Netherlands
2019	World Military Games (CISM), Team Physician	Wuhan City, China

### **Medical Delegate, Doping Control Supervisor, World Swimming Federation (World Aquatics)**

2018	Ultramarathon Swim Series	Ohrid, Macedonia
2018	World Swimming Championships (25 m)	Hangzhou, China
2019	Diving World Series	Kazan, Russia
2019	World Championships	Gwangju, South Korea
2019	World Junior Swimming Championships	Budapest, Hungary
2021	World Junior Diving Championships	Kiev, Ukraine
2021	World Swimming Champs. (25m)	Abu Dhabi, United Arab Emirates
2023	World High Diving Championships	Fukuoka, Japan
2024	World High Diving Championships	Doha, Qatar

### **Medical Delegate, European Swimming Federation (European Aquatics)**

2021	European Championships (diving)	Budapest, Hungary
2021	European junior qualification (water polo boys)	Korcula, Croatia
2022	European junior Championships (water polo girls)	Netanya, Israel
2022	European junior Championships (diving)	Bucharest, Romania

2022	European Championships (diving)	Rome, Italy
2022	Open Water Cup 2022 (open water swimming)	Kiel, Germany
2023	European Championships (diving)	Rzeszow, Poland
2023	World Championships (High Diving)	Fukuoka, Japan
2023	European junior Championships (diving)	Rijeka, Croatia
2024	European junior Championships (diving)	Rzeszow, Poland
2024	European Championships (diving)	Belgrade, Serbia

## Honors and Awards

1986	NCAA, Honorable Mention All American Division I, Swimming and Diving Team	Indianapolis, IN, USA
1987	NCAA, Honorable Mention All American Division I, Swimming and Diving Team	Indianapolis, IN, USA
1987	Big 8 Student Athlete of the Year Big 8 Post Graduate Scholarship	Lincoln, NE, USA
1996	Uut Armbrust Trofee Royal Netherlands Swimming Federation Best National four year Performance Plan in Aquatic Sports	Utrecht, The Netherlands
2002	Recognition and financial award for excellence as a physician in the Department of Occupational Medicine, Royal Netherlands Army	
2003	Recognition for excellence as a primary care sports medicine physician Basic Military Training Camp	Ermelo, The Netherlands
2004	Recognition and financial award for excellence as a physician in the Department of Occupational Medicine, Royal Netherlands Army	
2006	Recognition and financial award for excellence as a physician in the Department of Occupational Medicine, Royal Netherlands Army	
2009	Life time honorable member Amersfoort Swimming and Diving Club Most successful diving coach in the history of the club	Amersfoort, The Netherlands
2014	Recognition from the department of Sports Medicine for remarkable contributions to soldier readiness, Royal Netherlands Army	
2015-2024	Fellow, European College of Sports Medicine (FECSM) Certificate number 26 in recognition of excellence in sports medicine	
2023	NATO Panel Excellence Award Research Task Group musculoskeletal injuries in the military	Paris, France
2023	Recognition and financial award for excellence as a physician in the Department of Sports Medicine, Royal Netherlands Army	

## Research Focus

Treatment and prevention of overuse injuries in young service members, medical aspects of Olympic springboard and platform diving, bridging the gap between science and practice.

## Grants

I work for the department of Training Medicine and Training Physiology (civilian equivalent: Sports Medicine) of the Royal Netherlands Army. Grants are not awarded to a person, but to the department. Since my appointment as Senior Physician/researcher in 2008, the department has grown from 11 persons staff to 20 persons and from 2020 onward a newly established research budget has been assigned of euro 750,000 each year (in 2008 this amount was zero). My role has been to raise the level of publication of the research of our department from internal reports (military only) to international peer reviewed journals (military and civilian).

## **Educational Activities**

### Royal Netherlands Swimming Federation

1990-2008 Instructor of the Diving Coaches Training Course (60 hours),  
1990, 1991, 1993, 1995, 1997, 2002, 2004, 2008

### University of Utrecht, The Netherlands

2007-2012 Visiting teacher for medical students, topic: analysis of human gait. Four hour workshop, 3-4 times per year, 8-10 students per group  
2024 Member, PhD Evaluation Committee; Candidate M.A. Paantjens. Thesis title: Improving clinical evaluation and decision-making in military personnel with mid-portion Achilles tendinopathy

### USUHS

2012-2019 Six articles in peer-reviewed journals in collaboration with Dr. A.I. Beutler, see the list of peer refereed publications below  
2012-present Teaching the Sports Medicine Fellows on Exercise-Related Leg Pain, once per year, at USUHS or at Fort Belvoir Community Hospital, Fort Belvoir, VA; Power Point presentations, Demonstration of physical examination, Demonstration of invasive diagnostic procedures, Supervising and commenting on physician/patient interactions  
2017 Operation Bushmaster, observer/controller (O/C) for surgeon role  
2021-present Two articles in peer-reviewed journals in collaboration with Dr. F.G. O'Connor, see the list of peer refereed publications below (nr 50, 55)

### Royal Netherlands Army

Please note: The Royal Netherlands Armed forces do not have a medical school. All physicians are trained at civilian medical schools. When contracted by the Royal Netherlands Armed Forces all physicians receive a one week course "Introduction to Military Sports Medicine". As Senior Sports Medicine Physician I contribute directly to curriculum design (Level Two teaching). From 2018 onward I am involved in mentoring and supporting PhD candidates (Level Three teaching).

2000-present Supervisor of medical students, individual electives in Military Sports Medicine

2008-present Teaching the course "Introduction to Military Sports Medicine" to physicians

2018-present Adviser and significant reviewer of chapters, PhD candidate Iris Dijkma MSc, University of Amsterdam: Musculoskeletal injuries in the Royal Netherlands Armed forces, Incidence, Treatments and Costs

USA Diving, Indianapolis IN, USA

2017-present Digital librarian, collector and custodian of worldwide written diving education materials

University of Maastricht, The Netherlands

2020 Member, PhD Evaluation Committee; Candidate Johan A. de Bruijn  
Thesis title: Anterior chronic exertional compartment syndrome of the leg: improving recognition and surgical treatment

2021 Member, PhD Evaluation Committee; Candidate Aniek P.M. van Zantvoort  
Thesis title: Exercise induced anterolateral lower leg pathologies: chronic exertional compartment syndrome and nerve entrapment

University of Canberra, Australia

2020 Member, Honors thesis Evaluation Committee; Candidate Angus Shaw  
Thesis title: Development and evaluation of a machine learning algorithm for predicting individual risk of medial tibial stress syndrome in Australian Defence Force recruits: a prospective cohort study

2022 Member, Honors thesis Evaluation Committee; Candidate Josh Silk-Jones  
Thesis title: Understanding Tibial Bone Loading Profiles in a Military Pre-Training Program to Generate a Bone Loading Nomogram

2024 Member, PhD thesis Evaluation Committee; Candidate Ben Currie  
Thesis title: Performance health of Australian diving athletes

University of Rotterdam, The Netherlands

2022-present Supervisor and significant reviewer of chapters, PhD candidate Mats van der Wee BSc, University of Rotterdam: New diagnostic procedures for chronic exertional compartment syndrome of the leg

2019-2023 PhD primary supervisor; Candidate Sanne Vogels  
Thesis title: Diagnosis and management of chronic exertional compartment syndrome of the leg. An evidence based approach

**Organization and Management**

2008 Meet director, 6-nation International Youth Diving Tournament Amersfoort, The Netherlands

1998-2000 High Performance Manager for Diving Royal Netherlands Swimming Federation Utrecht, The Netherlands

**Peer-reviewed Published Articles**

1. **Zimmermann WO**. Evaluation of the rehabilitation of soldiers in basic military training. *Nederl Mil Geneesk T* 2005; March: 47-56. Dutch.
2. **Zimmermann WO**. The remedial platoon of basic infantry training. *Nederl Mil Geneesk T* 2008; January: 21-24. Dutch.
3. **Zimmermann WO**. The Dutch Diving fitness test; defining the normal ranges of a test battery. *Sport & Geneesk* 2009; 2: 36-46.
4. **Zimmermann WO**, Paantjens MA. Compression stockings, part 1: experiences of 50 military users. *Nederl Mil Geneesk T* 2009; November: 209-213. Dutch.
5. **Zimmermann WO**. A yearly fitness test for service members with medical limitations. *Nederl Mil Geneesk T* 2009; November: 209-213. Dutch.
6. Moen MH, Bongers T, Bakker EW, Weir A, **Zimmermann WO**, van der Werve M, et al. The additional value of a pneumatic leg brace in the treatment of recruits with medial tibial stress syndrome; a randomized study. *J R Army Med Corps* 2010; 156(4): 236-240.
7. Moen MH, Bongers T, Bakker EW, **Zimmermann WO**, Weir A, Tol JL, Backx FJG. Risk factors and prognostic indicators for medial tibial stress syndrome. *Scand J Med Sci Sports* 2010; 22(1): 34-39.
8. Godefrooij DA, **Zimmermann WO**. Developments in the treatment of chronic exertional compartment syndrome. *Nederl Mil Geneesk T* 2012; September: 160-162. Dutch.
9. **Zimmermann WO**. Compression stockings, part 2: the effect on running performance in 100 soldiers with Exercise Related Leg Pain. *Nederl Mil Geneesk T* 2013; January: 11-17. Dutch.
10. **Zimmermann WO**, Willeboordse E. Chronic Exercise Related Leg Pain in soldiers: new findings in the soft tissues? *Nederl Mil Geneesk T* 2013; July: 92-99. Dutch.
11. **Zimmermann WO**, Harts CC, Helmhout PH. The treatment of soldiers with MTSS and CECS. *Nederl Mil Geneesk T* 2014; May: 72-82. Dutch.
12. Benardot D, **Zimmermann WO**, Cox GR, Marks S. Nutritional recommendations for divers. *Int J Sport Nutr Exerc Metab* 2014; 24: 392-403.
13. **Zimmermann WO**, Harts CC, Helmhout PH. The treatment of soldiers with MTSS and CECS. *Sport & Geneesk* 2015; 1: 6-19. Dutch.
14. Helmhout PH, Diebal AR, van der Kaaden L, Harts CC, Beutler A, **Zimmermann WO**. The effectiveness of a 6-week intervention program aimed at modifying running style in patients with chronic exertional compartment syndrome. *The Orthop J Sports Med* 2015; 3(3).
15. **Zimmermann WO**, Helmhout PH, Noest R. The ankle-brachial index before and after exercise in normals and soldiers with exercise-related leg pain. *Nederl Mil Geneesk T* 2015; May: 44-49. Dutch.
16. Winters M, Moen MH, **Zimmermann WO**, Lindeboom R, Weir A, Backx FJG, Bakker EWP. The medial tibial stress syndrome score: a new patient-reported outcome measure. *BJSM* 2016; 50(19): 1192-1199.
17. Winters M, Moen M, **Zimmermann WO**, Lindeboom R, Weir A, Backx F, Bakker E. The medial tibial stress syndrome score: a new patient-reported outcome measure. *Sport & Geneeskunde* 2016; 3: 28-30. Dutch.
18. Helmhout PJ, Diebal A, Poelsma L, Harts CC, **Zimmermann WO**. Modifying marching technique in military service members with chronic exertional compartment syndrome: a case series. *Int J Sports Phys Ther* 2016; 11(7): 1106-1124.

19. **Zimmermann WO**, Helmhout PH, Beutler A. Prevention and treatment of exercise related leg pain in young soldiers; a review of the literature and current practice in the Dutch armed forces. *J R Army Med Corps* 2017; 163: 94-103.
20. **Zimmermann WO**. Vitamin D in service members with medial tibial stress syndrome. *Nederl Mil Geneesk T* 2017; March: 32-36. Dutch.
21. Ligthert E, Helmhout PH, Wurff van der P, **Zimmermann WO**. A specialty clinic for exercise related leg pain in the central military hospital, part 1. *Nederl Mil Geneesk T* 2017; July: 90-98. Dutch.
22. **Zimmermann WO**, Linschoten CW, Beutler A. Gait retraining as part of the treatment program for soldiers with exercise related leg pain: preliminary clinical experiences and retention. *S Afr J Sports Med* 2017; 29(1).
23. Ligthert E, Onnouw EGJ, Helmhout PH, **Zimmermann WO**. The application of PROMs and PREMs in military health care: an essay. *Nederl Mil Geneesk T* 2017, November:143-145. Dutch.
24. Ligthert E, Helmhout PH, Wurff van der P, Onnouw EGJ, **Zimmermann WO**. A specialty clinic for exercise related leg pain in the central military hospital, part 2. *Nederl Mil Geneesk T* 2017; November: 138-142. Dutch.
25. **Zimmermann WO**, Sahetapij CJ. Prevention of exercise related leg pain: the pre-employment medical exam. *Nederl Mil Geneesk T* 2017; November: 146-148. Dutch.
26. **Zimmermann WO**, van Valderen N, Beutler AI. Gait retraining for young soldiers with resistant exercise related leg pain: a short communication on recent findings. *J of Yoga & Phys Ther* 2017; 7(4).
27. **Zimmermann WO**, Ligthert E, Helmhout PH, Beutler A, Hoencamp R, Backx FJG, Bakker EWP. Intracompartmental pressure measurements in 501 service members with exercise-related leg pain. *Transl J of ACSM* 2018; 3(14): 107-112.
28. **Zimmermann WO**, van Valderen NRI, Linschoten CW, Beutler AI, Hoencamp R, Bakker EWP. Gait retraining reduces vertical ground reaction forces in running shoes and military boots. *Transl Sports Med* 2019; 2: 90-97.
29. Dijkma I, **Zimmermann WO**, Lucas C, Stuiver MM. A pre-training conditioning program to increase physical fitness and reduce attrition in Dutch Airmobile recruits: study protocol for a randomised controlled trial. *Contemp Clin Trials Comm* 2019; 14: 100342.
30. **Zimmermann WO**, Hutchinson MR, Van den Berg RH, Hoencamp R, Backx FJG, Bakker EWP. Conservative treatment of anterior chronic exertional compartment syndrome in the military, with a mid-term follow-up. *BMJ Open Sport Exerc Med* 2019; 5, e000532.
31. **Zimmermann WO**, Linschoten CW, Beutler AI, Bakker EWP. The immediate effect of Extracorporeal shockwave therapy for chronic medial tibial stress syndrome. *Arch Phys Health Sports Med* 2019; 2(1): 20-28.
32. **Zimmermann WO**, Duijvesteijn NM. The effects of increasing cadence on vertical ground reaction forces when walking in military boots. *Nederl Mil Geneesk T* 2019; May: 57-63. Dutch.
33. Dijkma I, Perry S, **Zimmermann WO**, Lucas C, Stuiver MM. Effects of agility training on body control, change of direction speed and injury attrition rates in Dutch recruits: a pilot study. *J Mil Vet Health* 2019; 27(2): 28-40.
34. **Zimmermann WO**, Bakker EWP. Reducing vertical ground reaction forces: the relative importance of three gait retraining cues. *Clin Biom* 2019; 69: 16-20.



35. **Zimmermann WO**. Exercise-related leg pain: the importance of gait analysis for diagnosis. *Sportgericht* 2019; 73(5): 20-24. Dutch.
36. **Zimmermann WO**. Exercise-related leg pain: the importance of gait retraining for treatment. *Sportgericht* 2019; 73(6): 10-15. Dutch.
37. Winters M, Moen MH, **Zimmermann WO**, Lindeboom R, Weir A, Backx FJG, Bakker EWP. Correction: The medial tibial stress syndrome score, a new patient reported outcome measure. *BJSM* 2020; 54(4).
38. Maksymiak R, Ritchie E, **Zimmermann W**, Maliko N, van der Werve M, Verschure M, Hoencamp R. Historic cohort: outcome of chronic exertional compartment syndrome-suspected patients. *BMJ Mil Health* 2020; Feb 3.
39. **Zimmermann WO**, Piepers R. Treatment of chronic medical tibial stress syndrome in a military sports medicine clinic: a 2019 sample. *Nederl Mil Geneesk T* 2020; March: 33-39. Dutch.
40. Dijkma I, **Zimmermann WO**, Hertenberg EJ, Lucas C, Stuiver MM. One out of four recruits drops out from elite military training due to musculoskeletal injuries in the Netherlands Armed Forces. *BMJ Mil Health* 2020; 001420.
41. Vogels S, Ritchie ED, van Dongen TCF, Scheltinga MRM, **Zimmermann WO**, Hoencamp R. Systematic review of outcome parameters following treatment of chronic exertional compartment syndrome in the lower leg. *Scand J Med Sci Sports* 2020; 30(10): 1827-1845.
42. Nwakibu U, Schwarzmann G, **Zimmermann WO**, Hutchinson MR. Chronic exertional compartment syndrome of the leg management: where are we and where are we going? *Current Sports Med Reports* 2020; 19(10): 438-444.
43. Valderen van NRI, **Zimmermann WO**. Gait retraining as therapy: “automatic switchers”. *Nederl Mil Geneesk T* 2020; November: 183-189. Dutch.
44. Dijkma I, **Zimmermann WO**, Bovens D, Lucas C, Stuiver MM. Despite an improved aerobic endurance, still high attrition rates in initially low-fit recruits – results of a randomised controlled trial. *Cont Clin Trials Comm* 2020; 100679.
45. **Zimmermann WO**, Valderen van NRI. The automatic strike-change phenomenon: when running barefoot patients change from a heel strike to a forefoot strike without any instruction. *Int J Sports Science Phys Ed* 2021; 6 (1): 1-7.
46. Valderen van NRI, **Zimmermann WO**. Gait retraining as therapy: the automatic strike-change phenomenon. *Physios* 2021; 1, 21-29. Dutch.
47. Lever EM, **Zimmermann WO**. Marching in boots, determination of the walk to run transition speed. *Nederl Mil Geneesk T* 2021; November: 251-257. Dutch.
48. Vogels S, Ritchie ED, Hundscheid HPH, Janssen L, Hoogeveen AR, **Zimmermann WO**, Hoencamp R, Scheltinga MRM. Chronic recalcitrant medial tibial stress syndrome: is surgery an option? *Transl Sports Med* 2021; 4 (4): 508-517.
49. Risk factors for musculoskeletal injuries in the military. Sammito S, Hadzoc V, Karakolis T, Kelly KR, Proctor SP, Stepens A, White G, **Zimmermann WO**. *Mil Med Res* 2021; 8: 66.
50. Vogels S, Bakker EWP, O’Connor FG, Hoencamp R, **Zimmermann WO**. The association between intracompartmental pressures in the anterior compartment of the leg and conservative treatment outcome for exercise-related leg pain in military service members. *Arch Rehab Res Clin Transl* 2022;4,100171.
51. **Zimmermann WO**, Lever EM. Speed marching in military boots: the walk-to-run transition speed and vertical ground reaction forces. *Int J Sports Exerc Med* 2022; 8, 1.

52. Vogels S, Ritchie ED, Bakker EWP, Vogels MAJM, **Zimmermann WO**, Verhofstad J, Hoencamp R. Measuring intracompartmental pressures for the chronic exertional compartment syndrome: Challenging commercially available devices and their respective accuracy. *J Biomech* 2022; 135, 111026.
53. Ritchie ED, Vogels S, van Dongen TTCF, Borger van der Burg B, Scheltinga MR, **Zimmermann WO**, Hoencamp R. Systematic review of innovative diagnostic tests for chronic exertional compartment syndrome. *Int J Sports Med*. 2022 online.
54. Vogels S, Ritchie ED, Borger van der Burg BLS, Scheltinga MRM, **Zimmermann WO**, Hoencamp R. Clinical consensus on diagnosis and treatment of patients with chronic exertional compartment syndrome of the leg: a Delphi analysis. *Sports Med*. 2022 online.
55. Wee van der JL, Vogels S, Bakker EWP, O'Connor FG, Hoencamp R, **Zimmermann WO**. The association between intracompartmental pressures in the deep posterior compartment of the leg and conservative treatment outcome for exercise-related leg pain in military service members. *Arch Rehab Res Clin Transl* 2022;000:100232.
56. Vogels S, de Vries D, Bakker EWK, Miller TL, Hoencamp R, **Zimmermann WO**. Measuring intracompartmental pressures in the lower leg. Assessing the use of unilateral measurements in patients with bilateral symptoms. *J Bone Joint Surg Open Access* 2022;e22.00041.
57. **Zimmermann WO**, Bakker EWP. Letter to the editor: Emerging evidence: gait retraining can reduce dropout from basic military training. *Mil Med* 2022; November.
58. **Zimmermann WO**, Heskamp H, Bakker EWP. Doctor what running shoes should I buy? *Nederl Mil Geneesk T* 2023; January: 4-12. Dutch.
59. **Zimmermann WO**. NATO report on overuse injuries, a summary. *Nederl Mil Geneesk T* 2024; January: 8-11. Dutch.
60. **Zimmermann WO**, Amelsfort K, Heskamp H, Bakker EWP. The biomechanical effects of an insole in military boots. *Nederl Mil Geneesk T* 2024; July: 127-134. Dutch.

## Books

1. Zimmermann WO. *Diving: the Zimmermann System*. Published by the author, 1995.
2. Zimmermann WO. *Rules and Regulations for Diving in The Netherlands* 1996 (first edition); 1997, 1998, 1999, 2005, 2006, 2007, 2008.
3. Zimmermann WO, Braamzeel JB, Faber J. *Coaching Diving, level A (beginners)*. Royal Netherlands Swimming Federation 1997. In Dutch.

## Book Chapters (Level Two teaching)

1. Zimmermann WO. Medical aspects of competitive diving. In: *Diving Research Worldwide*. Thomas Köthe, Oliver Stoll ed. 2013: 66-72.
2. Zimmermann WO, Seidenberg PH, Kolwadkar YV. Lower Leg Injuries. In: *Radiologic Imaging in Sports Injuries*. Glaudemans WJM, ed. 2015; 689-709.

## Scholarly Works

1. Zimmermann WO. *Injuries in springboard diving in The Netherlands*. Medical School Thesis (Master's thesis), University of Leiden, The Netherlands. 1993.

- Zimmermann WO. *Exercise-related leg pain: diagnosis and treatment in the armed forces*. PhD thesis, University of Utrecht, The Netherlands. 2019.

## Other Publications

20+ articles on technical aspects of the sport Springboard and Platform Diving, in non-refereed Swimming Magazines. Dutch.

Zimmermann WO. Diving a safe, but demanding sport. *FINA Aquatics World* 2007; November: 28-30.

## Posters

- 2008 The Diving Fitness Test Manchester, England  
World Swimming Federation (FINA), Medical Congress

## Invited International Presentations

### European Swimming Federation (LEN)

- 1996 Medical aspects of springboard and platform diving London, England  
1998 Medical aspects of springboard and platform diving Prague, Czech Republic

### World Swimming Federation (FINA)

- 2006 Medical aspects of springboard and platform diving Athens, Greece  
2008 Medical aspects of springboard and platform diving Manchester, England  
2013 Medical aspects of springboard and platform diving Leipzig, Germany  
2018 Medical aspects of springboard and platform diving ChongQing, China

### Uniformed Services University of the Health Sciences, Bethesda, Maryland, USA

- 2012 Bethesda, Prevention and Treatment of Exercise Related Leg Pain (ERLP) in the Royal Netherlands Army; 2013, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023

### American College of Sports Medicine (ACSM)

- 2011 Denver, Evidence based diagnosis of CECS  
2013 Indianapolis, Overuse injuries of the legs in the Royal Netherlands Armed Forces  
2019 Orlando, Conservative vs Surgical treatment of CECS; a duo-presentation with Dr. M. Hutchinson, orthopaedic surgeon from Chicago, Illinois  
2021 Virtual meeting (covid-19), Diagnostic testing for CECS, the rise and fall of intracompartmental pressure testing

### NATO

- 2016 Paris, Exploratory Task Group HFM-ET-150: Overuse injuries in the Royal Netherlands Armed Forces  
2017 Paris, Research Task Group, HFM-RTG-283: Reducing musculoskeletal injuries in the Royal Netherlands Armed Forces

### International Institute for Race Medicine (IIRM)

2017 Washington DC, Developments in the treatment of Exercise-Related Leg Pain

George Town University, Washington DC

2018 Developments in the conservative treatment of Exercise-Related Leg Pain

Lithuanian Armed Forces

2019 Gait Retraining for Exercise-Related Leg Pain Druskininkai, Lithuania

2024 Gait Retraining in the military, an update Druskininkai, Lithuania

International Congress on Soldiers Physical Performance (ICSPP)

2020 Treatment and Prevention of Exercise-Related Leg Pain in young soldiers Quebec City, Canada

2023 Preventing overuse injuries in the military: examples of failure and success London, England

Webinar: Warrior Care in the 21<sup>st</sup> Century

2021 An introduction to the contribution of Sports Medicine to Military Medicine Utrecht, The Netherlands

International Committee on Military Medicine (ICMM), Centennial Talks

2021 From Rehab to Prehab, The role of Sports Medicine in Military Medicine Antwerp, Belgium

2022 From Rehab to prehab, Exercise-Related Leg Pain, treatment and prevention Brussels, Belgium

Intermountain Healthcare / BYU

2022 Treatment and prevention of Exercise-Related Leg Pain; Medical aspects of Competitive diving, the challenges of Sports Medicine Provo, UT, USA

2023 Treatment and prevention of Exercise-Related Leg Pain; Medical aspects of Competitive diving, the challenges of Sports Medicine Provo, UT, USA

2024 Treatment and prevention of Exercise-Related Leg Pain; Medical aspects of Competitive diving, the challenges of Sports Medicine Provo, UT, USA

**Invited National Presentations (The Netherlands)**

<u>Year</u>	<u>Audience: Title</u>	<u>number of learners</u>
2002	Royal Netherlands Army, Department of Occupational Medicine: Overuse injuries in the Armed Forces	50-75
2003	Royal Netherlands Army, Department of Family Medicine: Cooperation between family medicine and occupational medicine	8-10
2003	Royal Netherlands Army, Department of Occupational Medicine: Reporting work-related disease	20
2003	Occupational medicine physicians: Overuse injuries In the Armed Forces	20-30
2004	Royal Netherlands Army, physical therapists: Exercise-related leg pain in the Army	15-20
2005	Occupational medicine physicians: Sports medicine	

	In the Armed Forces	20-30
2007	Military leadership, Army: lessons from a remedial platoon	10-15
2007	Sports Medicine Fellows: the position of the sports medicine physician in a professional sports team	20-30
2009	Military Leadership, Navy: Preventing drop out in basic military training	10-15
2010	Royal Netherlands Army: Exercise testing for occupational medicine physicians	8
2010	Dutch Society of Sports Medicine (VSG): the use of compression stockings for ERLP	40-50
2012	City Council of Amersfoort: the importance of medical care for junior college students in physical education and pre-military training	25-30
2013	Royal Netherlands Army: Screening for ERLP, improving the entrance medical exam	30-40
2013	National congress for Anatomy The Netherlands: ERLP in the Royal Dutch Armed Forces	100+
2014	Central Military Hospital, Utrecht The Netherlands: Developments in the conservative treatment of ERLP	100+
2015	Family physicians: Prevention and treatment of ERLP for the family physician	40-50
2016	Special Forces Command, Royal Netherlands Army: How much running is necessary?	100+
2016	University of Utrecht Department of Sports Medicine: Developments in the conservative treatment of ERLP	10-15
2016	University of Utrecht Department of Orthopedic Surgery: Developments in the conservative treatment of CECS	15-20
2016	Dutch Society of Sports Medicine (VSG): The use of compression stockings for ERLP	30-40
2016	Participants Marathon Utrecht: The use of compressions stockings	80-100
2017	Dutch Society of Physicians in Dance: ERLP in soldiers and dancers, a comparison	80-100
2017	Physiotherapists: North of The Netherlands: Developments in the treatment of exercise related leg pain	100+
2017	Physiotherapists: East of The Netherlands: Developments in the treatment of exercise related leg pain	100+
2017	University of Utrecht Department of Sports Medicine: Developments in the conservative treatment of ERLP	10-15
2017	Royal Marines Medical Team: treatment of ERLP	8-10
2018	Post Olympics Sports Medicine Congress (surgeons): Developments in the conservative treatment of ERLP	100+
2018	Doctor's assistants of family physicians: interaction between family physician and sports medicine physician	100+
2018	Regional symposium of family physicians: Treating overuse injuries, the sports medicine approach	100+
2018	Navy physicians: cycle ergometrics	8
2018	Royal Dutch Korfbal association: Exercise-related leg pain, role of the therapist	80-100
2019	National symposium of physicians for non-operative orthopedics:	

	Conservative treatment of ERLP	80-100
2019	Dutch Society of Sports Medicine (VSG): Conservative treatment of exercise-related leg pain	60-80
2019	Physiotherapists: Middle of The Netherlands: Developments in the treatment of MTSS	200+
	Example of learner evaluation: n = 148	
	The speaker was well informed: 83%	
	The speaker presented well: 77%	
	The information was clinically relevant for physiotherapists: 66%	
2020	Martini Hospital Groningen, Department of Sports Medicine: Developments in the treatment of MTSS	100+
2021	FBK international track and field competition, sports medicine webinar Conservative treatment of exercise-related leg pain	300
2021	Ergatis occupational medicine, The Netherlands, podcast Exercise is medicine for patients with long term work absence	400+
2022	Royal Netherlands Army: Conservative treatment of exercise-related leg pain	16
2022	Symposium on 75 years Military Rehabilitation Sports medicine contributions to Military Medicine	150
2023	Symposium on Running Related Injuries Developments in the treatment of MTSS	60
2023	Dutch Society of Sports Medicine (VSG): A national treatment guideline for exercise-related leg pain	80
2023	Maxima Medical Center (hospital), Veldhoven 20 years of research on ERLP in the military	10-15
2023	Dutch Society of Sports Medicine (VSG): Return to sport after bone stress injuries	150
2024	Physiotherapists: Middle of The Netherlands: Developments in the treatment of ERLP	50
2024	Occupational Medicine continued education Can sports medicine contribute to occupational medicine?	200

## Reviewer for Journals or Conferences

- 2015 Scandinavian Journal of Medicine & Science in Sports (1x)
- 2016-2018 Dutch / Flamish Journal of Sports Medicine (Sport & Geneeskunde) (6x)
- 2016 Journal of the Royal Army Medical Corps (1x)
- 2016 Sports Medicine - Open (1x)
- 2017 Gait & Posture (2x)
- 2017 Current Sports Medicine Reports (1x)
- 2018 Medical Science Monitor (1x)
- 2018 Journal of Military and Veterans' Health (1x)
- 2019 International Congress on Soldiers Physical Performance (ICSPP), Quebec City, Canada
- 2020 Journal of Ultrasonography (1x)
- 2020 Military Health System Research Symposium (MHSRS), 2020, digital, USA
- 2020 Life, an MPDI Open Access Journal (1x)
- 2020 Nutrients, an MDPI Open Access Journal (1x)

- 2021 Scandinavian Journal of Medicine & Science in Sports (3x)
- 2021 Sports Medicine – Open (1x)
- 2022 International Journal of Physical Education, Fitness and Sports (1x)
- 2022 44<sup>th</sup> ICMM World Congress on Military Medicine, Brussels, Belgium
- 2022 Scandinavian Journal of Medicine & Science in Sports (1x)
- 2022 PLOS One (1x)
- 2022 Medicine & Science in Sports & Exercise, ACSM (1x)
- 2023 BMJ Open Sport and Exercise Medicine (1x)
- 2023 PLOS One (1x)
- 2023 Scandinavian Journal of Medicine & Science in Sports (1x)
- 2023 The Physician and Sports medicine (1x)
- 2024 International Journal of Sports Medicine, Thieme (1x)
- 2024 Current Sports Medicine Reports (1x)

### **Other creative products**

1983-present Diving Literature: worldwide bibliography of written diving literature.  
The largest annotated bibliography and literature collection of Olympic Diving  
in the world. Freely accessible: [www.sportartszimmermann.nl](http://www.sportartszimmermann.nl)

### **Athletic career**

1976-1991 Member The Netherlands National Springboard and Platform Diving Team  
20 times national champion on springboard  
Participant in 60 international competitions, 5 European Cups, 3 World Cups  
Full athletic scholarship, University of Nebraska, Lincoln NE, 1983-1987  
Big-8 champion 1986 (Lincoln, NE)

### **Coaching career**

1988-2009 Amateur Springboard and Platform Diving Coach, self-employed  
2003-2009 7x National Coach of the year, The Netherlands  
1999-2009 50x Coach or Head Coach of the Dutch National Diving Team in international  
tournaments

### **Volunteer activities**

1995-1998 Member Technical Diving Committee (Volunteer), Royal Netherlands  
Swimming Federation  
1995-2010 Diving Judge, Level A (highest level), European Swimming Federation (LEN)  
2000-2010 Diving Judge, Level A (highest level), World Swimming Federation (FINA)