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## Motor control after anterior cruciate ligament reconstruction

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## About the Author





Alli Gokeler was born on 18 September 1967 in Groningen, the Netherlands. He obtained his degree in Physical Therapy in 1990 from the Rijkshogeschool Groningen. From 1991-2001 he worked as a physical therapist in the United States and Germany. Upon return to the Netherlands, he obtained a degree in Sports Physical Therapy from the Utrecht University of Applied Science in 2003. In 2005 he started on his PhD project at the University Medical Center Groningen, Center for Rehabilitation. Alli has a special interest in motor control after ACL injuries. His academic goal is to pursue a post-doc track to improve on his theoretical and practical competencies in research methods in human movement science with a special focus on development of prevention programs designed to reduce incidence of ACL (second) injury rate and associated occurrence of osteoarthritis.

## HONORS AND AWARDS

- |      |  |
|------|--|
| 2013 | Third Price<br>Jöllenbeck T, Freiwald J, Dann K, Gokeler A, Zantop T, Seil R, Miltner O. Paper of Highest Public Interest. GOTS Society for Orthopaedic Traumatologic Sports Medicine. Prevention of ACL Injuries. Review of Strategies and Evidence |
| 2005 | First Price<br>Gokeler A, Hof AL, Arnold MP, Dijkstra PU, Postema K. Best Poster Award. GOTS Society for Orthopaedic Traumatologic Sports Medicine. An electromyographic analysis of landing strategies after ACL reconstruction. Munich, Germany    |
| 2003 | Second Price<br>Benjaminse A, Gokeler A, van der Schans C. Student research award. Clinical Diagnosis of Anterior Cruciate Ligament Rupture. A Meta-Analysis. Royal Dutch Society for Physical Therapy, the Hague, the Netherlands                   |

## PEER REVIEWED PUBLICATIONS ACL

- Baumgart C, Gokeler A, Donath L, Hoppe MW, Freiwald J. Effects of Static Stretching and Playing Soccer on Knee Laxity. Accepted Clin J Sports Med 2014.
- Benjaminse A, Gokeler A, Dowling AV, Faigenbaum A, Ford KR, Hewett TE, Onate JA, Otten E, Myer GD. Optimization of the ACL Injury Prevention Paradigm: Novel Feedback Techniques to Enhance Motor Learning and Reduce Injury Risk Deficits. Accepted J Orth Sports Phys Ther 2014

- Gokeler A, Eppinga P, Dijkstra PU, Welling W, Padua DA, Otten E, Benjaminse A. Effect of Fatigue on Landing Performance Assessed with the Landing Error Scoring System (LESS) in Patients after ACL Reconstruction. A Pilot Study. *Int J Sports Phys Ther.* 2014;9(3):302-11.
- Gokeler A, Benjaminse A, Welling W, Alferink M, Eppinga P, Otten B. The Effects of Attentional Focus on Jump Performance and Knee Joint Kinematics in Patients after ACL Reconstruction. *Phys Ther Sport.* 2014 doi: 10.1016/j.ptsp.2014.06.002.
- Gokeler A, Bisschop M, Myer GD, Benjaminse A, Dijkstra PU, van Keeken HG, van Raay JJ, Burgerhof JG, Otten E. Immersive Virtual Reality Improves Movement Patterns in Patients after ACL Reconstruction: Implications for Enhance Criteria-based return-to-sport Rehabilitation. *Knee Surg Sports Traumatol Arthrosc.* 2014 doi.org/10.1007/s00167-014-3374-x.
- Benjaminse A, Welling W, Otten B, Gokeler A. Novel Methods of Instruction in ACL Injury Prevention Programs. A Systematic Review. *Phys Ther Sport.* 2014. doi:10.1016/j.ptsp.2014.06.003.
- Gokeler A, Bisschop M, Benjaminse A, Myer GD, Eppinga P, Otten E. Quadriceps Function Following ACL Reconstruction and Rehabilitation: Implications for Optimisation of Current Practices. *Knee Surg Sports Traumatol Arthrosc.* 2014;22(5):1163-74.
- Gokeler A, Benjaminse A, van Eck CF, Webster KE, Schot L, Otten E. Return of Normal Gait as an Outcome Measurement in ACL Reconstructed Patients. A Systematic Review. *Int J Sports Phys Ther.* 2013;8(4):441-51.
- Gokeler A, Benjaminse A, Hewett TE, Paterno MV, Ford KR, Otten E, Myer GD. Feedback Techniques to Target Functional Deficits Following ACL Reconstruction: Implications for Motor Control and Reduction of Second Injury Risk. *Sports Med.* 2013;43(11):1065-74.
- Gokeler A, Benjaminse A, Hewett TE, Lephart SM, Engebretsen L, Ageberg E, Engelhardt M, Arnold MP, Postema K, Otten E, Dijkstra PU. Proprioceptive Deficits after ACL Injury: Are They Clinically Relevant? *Br J Sports Med.* 2012;46(3):180-92.
- Benjaminse A, Gokeler A, Fleisig GS, Sell TC, Otten B. What is the True Evidence for Gender-related Differences During Plant and Cut Maneuvers? A systematic review. *Knee Surg Sports Traumatol Arthrosc.* 2011;19(1):42-54.
- Gokeler A, Hof AL, Arnold MP, Dijkstra PU, Postema K, Otten E. Abnormal Landing Strategies after ACL Reconstruction. *Scand J Med Sci Sports.* 2010; 20(1):e12-9

van der Harst JJ, Gokeler A, Hof AL. Leg Kinematics and Kinetics in Landing From a Single-leg Hop for Distance. A Comparison Between Dominant and Non-dominant leg. *Clin Biomech.* 2007;22(6):674-80.

Benjaminse A, Gokeler A, van der Schans CP. Clinical Diagnosis of an Anterior Cruciate Ligament Rupture: A Meta-analysis. *J Orthop Sports Phys Ther.* 2006;36(5):267-88.

Gokeler A, Schmalz T, Knopf E, Freiwald J, Blumentritt S. The Relationship Between Isokinetic Quadriceps Strength and Laxity on Gait Analysis Parameters in Anterior Cruciate Ligament Reconstructed Knees. *Knee Surg Sports Traumatol Arthrosc.* 2003;11(6):372-8.

## PRESENTATIONS INVITED SPEAKER

Gokeler A, Benjaminse A, Padua D, Welling W, Alferink M, Otten E. Return to Sport" Wissenschaft und Anwendung für die Praxis. 7<sup>th</sup> Osnabrücker Symposium State of the Art in Orthopaedics, Traumatologie and Physical Therapy. Osnabrück, Germany, March 2014

Gokeler A, Schmitt H, Züst P, Freiwald J, Fuhrmann R, Knupp M, Schueller-Weidekamm C, Hintermann B, Valderrabano V. 28th GOTS Society for Orthopaedic Traumatologic Sports Medicine Annual Meeting. Return to Sports after Ankle Injury. Mannheim, Germany, June 2013

Gokeler A, Benjaminse A, Eppinga P, Otten E. Rehabilitation after RTC repair and capsulolabral reconstruction. 6th Osnabrücker Symposium State of the Art in Orthopaedics, Traumatologie and Physical Therapy. Osnabrück, Germany, March 2013

Gokeler A, Benjaminse A, Myer G, Wulf G. Novel Motor Learning to Enhance Movement Patterns Prior Return to Sport after Anterior Cruciate Ligament Reconstruction. DGSP October 2012, Berlin, Germany

Gokeler A, Benjaminse A, Eppinga P, Otten E. Rehabilitation after ACL-Reconstruction. 5<sup>th</sup> Osnabrücker Symposium State of the Art in Orthopaedics, Traumatologie and Physical Therapy. Osnabrück, Germany, March 2012

Gokeler A., Benjaminse A, Eppinga P, Otten E. New trends in ACL Rehabilitation. ELANN Symposium State of the Art in ACL Reconstruction and Rehabilitation, Groningen, the Netherlands. December 2011

Otten E, Benjaminse A, Gokeler A. Synthese van het Onderzoek naar Leren, Cognitie en Gedrag bij Preventie en Herstel na (Knie) Blessure. 9e Groningen Sports Medicine Symposium 2011. Groningen, the Netherlands. January 21, 2011

Gokeler A. Sports Medicine Symposium, University of Regensburg. Patellofemoral disorders. What's the Evidence ? Regensburg, November 2010

Gokeler A. GOTS Society for Orthopaedic Traumatologic Sports Medicine. ACL Expert Meeting. Berlin, Germany, May 2010

Gokeler A, Lehmann M. 3<sup>rd</sup> Osnabrücker Symposium State of the Art in Orthopaedics, Traumatologie and Physical Therapy. Rehabilitation after Rotator Cuff Repair. Osnabrück, Germany, March 2010

Gokeler A, Lehmann M. 71<sup>st</sup> German Orthopaedics and Traumatology International Meeting. Update on Surgical treatment SLAP Lesions. Berlin, Germany, October 2009

Gokeler A. Royal Dutch Society for Physical Therapy RGF Symposium "Shaky Knees". ACL-Reconstruction - Good Hardware and/or Software ? Heerenveen, the Netherlands, March 2009

Gokeler A, Lehmann M. Athletikum Group Update 2008. 2<sup>nd</sup> Interdisciplinary Symposium of the Shoulder and Hip. Rehabilitation Following Arthroscopic Shoulder Stabilization. Freiburg, Germany, November 2008

Gokeler A, Lehmann M. 1<sup>st</sup> Freiburger Shoulder Symposium. Rehabilitation of the Shoulder. Freiburg, Germany, November 2007

Gokeler A, Otten E. Dutch Society for Sports Medicine Symposium. Residual deficits after ACL-Reconstruction. Wijk aan Zee, the Netherlands, November 2007

Gokeler A, Engelhardt M, Freiwald J. 22<sup>th</sup> GOTS Society for Orthopaedic Traumatologic Sports Medicine Annual Meeting. Instructional Course: Rehabilitation after ACL-Reconstruction. Munich, Germany, June 2007

Gokeler A, Engelhardt M. 13<sup>th</sup> German Society for Foot and Ankle Annual Meeting. Instructional Course: Rehabilitation After Inversion Trauma of the Ankle. Bielefeld, Germany, March 2007

Gokeler A, Engelhardt M, Freiwald J. International GOTS Society for Orthopaedic Traumatologic Sports Symposium: "Around the Knee": Rehabilitation after ACL-Reconstruction. Florence, Italy, September 2006

Gokeler A, Engelhardt M, Freiwald J. 14<sup>th</sup> International Sports Medicine Symposium Soccer World Championships "Around the Ball": Rehabilitation after Inversion Trauma of the Ankle. Frankfurt, Germany, May 2006

- Gokeler A, Hof AL, Arnold MP, Dijkstra PU, Postema K, Otten. Dutch Society Sports Physiotherapy. "A leg to stand on": Pre-activation of leg muscles during single leg hop test after ACL-Reconstruction. Nieuwegein, the Netherlands, April 2006
- Gokeler A, Engelhardt M, Freiwald J. 4<sup>th</sup> Bielefelder Symposium State of the Art in Orthopaedics, Traumatologie and Physical Therapy. Rehabilitation after Total Knee Prosthesis. Bielefeld, Germany, March 2006
- Gokeler A, Engelhardt M, Freiwald J. 7<sup>th</sup> German Society Sports Medicine section Biomechanics, Motor Control and Exercise "Prevention and Rehabilitation": Biomechanical Analysis after ACL-Reconstruction. Bad Sassendorf, Germany, February 2006
- Gokeler A, Hof AL, Arnold MP, Dijkstra PU, Postema K. 2<sup>nd</sup> German Symposium Research in Physical Therapy. Landing strategies after ACL-Reconstruction. An Electromyographic Analysis. Göttingen, Germany, September 2005
- Gokeler A, Engelhardt M. 1<sup>st</sup> Kieler Sports Medicine Symposium. Muscle Injuries in Endurance Sports, Kiel, Germany, August 2005
- Gokeler A, Engelhardt M, Freiwald J. 20<sup>th</sup>.GOTS Society for Orthopaedic Traumatologic Sports Medicine Annual Meeting. Instructional Course: Neuromuscular Changes after Knee Injuries. Munich, Germany, June 2005
- Gokeler A, Lehmann M, Engelhardt M, Freiwald J. 3<sup>rd</sup> Bielefelder Symposium State of the Art in Orthopaedics, Traumatologie and Physical Therapy. Rehabilitation after Shoulder Stabilization. Bielefeld, Germany, March 2005

## SCIENTIFIC PLATFORM PRESENTATIONS

- Gokeler A, Benjaminse A, Welling W, Alferink M, Otten E. Effect of Verbal Feedback Instructions on Landing Mechanics in Patients after ACL Reconstruction. ACL Study Group Meeting. Cape Town, South Africa, January 26-30, 2014
- Gokeler A, Bisschop M, Keeken, van HG, Burgerhof JH, Raaij JJAM, Otten E. Cognitieve Veranderingen in de Motorische Controle na een Voorste Kruisbandreconstructie. Voorjaarcongres Dutch Orthopedic Society, Utrecht, May 31, 2013
- Benjaminse A, Gokeler A, Cortes N, Otten, E. Effects of Stiff and Soft Landing Techniques on Knee Loading during a Single-Leg Cross-Over Hop. ACL Research Retreat V. Greensboro, NC, USA. March 22-24, 2012



- Gokeler A, Bisschop M, Benjaminse A, Eppinga P, Arnold M, Otten E. The Quadriceps Muscle Weakness Enigma after ACL-reconstruction. ACL Study Group Meeting. Jackson Hole, WY, USA. February 12-17, 2012
- Benjaminse A, Gokeler A, Fleisig GS, Otten E: What is the True Evidence for Gender Related Differences in ACL Injury During Plant and Cut Maneuvers? A Systematic Review. ESSKA Meeting. Oslo, June 2010
- Gokeler A, Benjaminse A, Ageberg E, Engebretsen L, Engelhardt M, Arnold M, Postema K, Otten E, Dijkstra P. ACL Study Group Meeting. Proprioceptive Deficits after ACL-injury. Are They Clinically Relevant ? A Systematic Review. Phuket, Thailand, 20-26 February 2010
- Benjaminse A, Gokeler A, Schans C van der. Clinical Diagnosis of Anterior Cruciate Ligament Rupture. A Meta-Analysis. GOTS Society for Orthopaedic Traumatologic Sports Medicine Annual Meeting. Munich, Germany, June 2007
- Gokeler A, Hof AL, Arnold MP, Dijkstra PU, Postema K, Otten. Congress on Sport Rehabilitation and Traumatology Health, Prevention and Rehabilitation in Soccer. Abnormal landing strategies after ACL-Reconstruction. Milan, Italy, April 2007
- Gokeler A, Hof AL, Arnold MP, Dijkstra PU, Postema K. 12<sup>th</sup> ESSKA 2000 Congress. Landing strategies after ACL reconstruction. An electromyographic analysis. Innsbruck, Austria, May 2006
- Gokeler A, Hof AL, Arnold MP, Dijkstra PU, Postema K. ACL Study Group Meeting. Landing strategies after ACL reconstruction. An Electromyographic Analysis. Hawaii, March 2006
- Gokeler A, Lehmann M, Schmidt-Wiethoff R. 20<sup>th</sup> GOTS Society for Orthopaedic Traumatologic Sports Medicine Annual Meeting. Role of the Scapula in Shoulder Instability. Munich, Germany, June 2005.
- Gokeler A, Lehmann M, Schmidt-Wiethoff R. 12<sup>th</sup> German Shoulder and Elbow Society Annual Meeting. Role of the Scapula in Shoulder Instability. Weimar, Germany, May 2005

## THESIS MENTORING

Welling W., Benjaminse A, Gokeler A, Otten E. Systematic review effect of attentional focus after ACLR. University Medical Center Groningen, Center for Human Movement Science. University Groningen, the Netherlands.

Schot L. A.Gokeler, E. Otten. Use of the CAREN system University Medical Center Groningen, Center for Human Movement Science. University Groningen, the Netherlands.

Bisschop M, A. Gokeler, Benjaminse A, P.Eppinga, Otten E. Systematic Review Evidence of Effectiveness Rehabilitation after ACL Reconstruction. Center for Human Movement Science. University Groningen, the Netherlands.

Benjaminse A, Gokeler A, Schans C van der. Clinical Diagnosis of Anterior Cruciate Ligament Rupture. A Meta-Analysis. Hanze University Applied Sciences, Department of Physical Therapy Groningen, the Netherlands.

## REVIEWER

American Journal of Sports Medicine  
Clinical Biomechanics  
Medicine and Science in Sports and Exercise  
Knee Surgery Sports Traumatology Arthroscopy  
Journal of Athletic Training  
Journal of Sport Rehabilitation  
European Journal of Applied Physiology

## MEMBERSHIPS

ESSKA  
ACL Study Group  
GOTS Society for Orthopaedic Traumatologic Sports Medicine  
KNGF: Royal Dutch Society for Physical Therapy, Section Sports Physical Therapy

