Nicht-operative Therapie ligamentärer Knieverletzungen und des frisch traumatisierten Kniegelenkes

Alli Gokeler, PhD, PT

physio Regionalverband beider Basel / Mitglied physioswiss beider basel

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Überlegungen

Koninklijk Nederlands Genootschap voor Fysiotherapie

KNGF Evidence Statement

Acuut knieletsel

DAVID S. LOUDON PT, PhD • DAVID SCALZITTI, PT, PhD • MAY ARNA RISBERG, PT, PhD
LARS ENGEBRETSEN, MD • KARI S. NOYES, PhD • ALLAN FLUCK, MD
LYNN SNYDER-MACKLER, PT, ScD • MICHAEL L. A. VOS, MD • CHRISTINE M. MCCROSSIN, PT, PhD

Knee Stability and Movement Coordination Impairments: Knee Ligament Sprain Revision 2017

Clinical Practice Guidelines Linked to the International Classification of Functioning, Disability and Health From the Orthopaedic Section of the American Physical Therapy Association

J Orthop Sports Phys Ther. 2017;47(12):A1-A47. doi:10.2519/jospt.2017.0303

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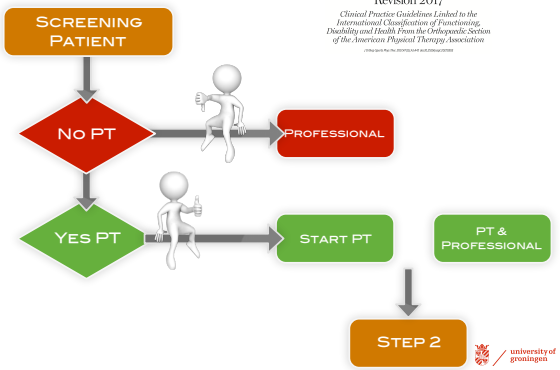

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SCANDINAVIAN JOURNAL OF MEDICINE & SCIENCE IN SPORTS

Review

Psychosocial factors influencing the recovery of athletes with anterior cruciate ligament injury: A systematic review

S. C. M. te Wierike[1], A. van der Sluis[1], I. van den Akker-Scheek[1], M. T. Elferink-Gemser[1,2], C. Visscher[1]

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Component 2: Classify conditions
Clinical findings

- Symptom onset linked to precipitating trauma
- Deceleration, cutting, or valgus motion associated with injury
- "Pop" heard or felt at time of injury
- Hemarthrosis within 0 to 12 hours following injury
- Knee e usion present
- Sense of knee instability reported
- Excessive tibiofemoral laxity with (cruciate/collateral) ligament integrity tests
- Pain/symptoms with (cruciate/collateral) ligament integrity tests

- **Lower-limb strength and coordination deficits**
- **Impaired single-leg proprioception/balance**
- **Abnormal compensatory strategies observed during deceleration or cutting movements**

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Anterior cruciate ligament sprain–associated **ICF diagnosis of knee stability and movement coordination impairments:**

- 6-meter single-limb timed hop test LSI < 80%
- MVIC isometric quadriceps strength index < 80%

  burst superimposition technique
- > 2 giving-way episodes with ADL

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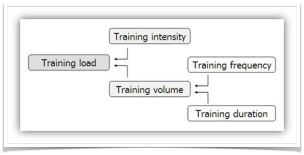
Component 3: Determination of Irritability Stage

Diagnosis of tissue irritability is important for guiding the clinical decisions regarding treatment frequency, intensity, duration, and type, with the goal of matching the optimal dosage of treatment to the status of the tissue being treated. There are cases where the alignment of irritability and the duration of symptoms does not match, requiring clinicians to make judgments when applying time-based research results on a patient-by-patient basis.



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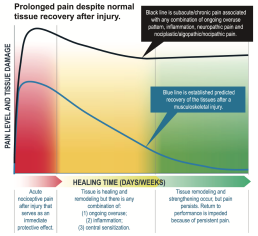
Pain in elite athletes—neurophysiological, biomechanical and psychosocial considerations: a narrative review

Brian Hainline,[1] Judith A Turner,[2] J P Caneiro,[3] Mike Stewart,[4] G Lorimer Moseley[5]



Fear of Reinjury (Kinesiophobia) and Persistent Knee Symptoms Are Common Factors for Lack of Return to Sport After Anterior Cruciate Ligament Reconstruction

David C. Flanigan, M.D., Joshua S. Everhart, M.D., M.P.H., Angela Pedroza, M.P.H., Tyler Smith, M.D., and Christopher C. Kaeding, M.D.

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[publication info]

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[publication info]

Component 4: Measures

Knee Ligament Sprain
Knee Instability/Movement Coordination Deficits

Impairment measures[B]
- Pain at rest (current level of pain)
- Pain at best (lowest level of pain in recent 24 hours)
- Pain at worst (highest level of pain in recent 24 hours)
- Pain frequency (percent of time in pain in recent 24 hours)
- Level of pain while performing most aggravating movement
- Modified stroke test for knee effusion
- Star Excursion Balance Test, anterior direction
- Star Excursion Balance Test, posterolateral direction
- Star Excursion Balance Test, posteromedial direction
- Single hop test for distance
- Crossover hop test for distance
- Triple hop test for distance
- 6-meter hop test for time

Activity limitations, self-reported measures[B]
- IKDC 2000
- KOOS pain subscale
- KOOS symptom subscale
- KOOS activities of daily living subscale
- KOOS sport/recreation subscale
- KOOS quality of life subscale
- Lysholm Knee Scoring Scale
- Tegner Activity Scale
- Marx Activity Rating Scale
- Capacity to walk (without knee symptoms)
- Capacity to run (without knee symptoms)
- Capacity to perform light household or work tasks (without knee symptoms)
- Capacity to participate in recreational or athletic activities (without knee symptoms)

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[publication info]

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Component 5: Intervention Strategies

Knee Ligament Sprain
Knee Instability/Movement Coordination Deficits

Early rehabilitation strategies
- Immediate mobilization[D]
- Cryotherapy[E]
- Early weight bearing[C]
- Continuous passive motion[C]
- Neuromuscular electrical stimulation[A]

Early to late rehabilitation strategies
- Therapeutic exercises[A]
  - Optimal range of motion, strength, and flexibility training progression specifically addressing the knee but also potentially the ankle/foot, hip, and trunk regions
- Neuromuscular re-education[A]
  - Optimal neuromuscular training progression
  - Field/court sports performance
- Supervised rehabilitation[B]
  - Optimal range of motion, strength, and flexibility training progression specifically addressing the knee but also potentially the ankle/foot, hip, and trunk regions
  - Optimal neuromuscular training progression
  - Field/court sports performance
- Education/counseling strategies
  - Indications for surgical interventions
  - Athletic or occupational activity modification
  - Return-to-sport readiness/risk appraisal

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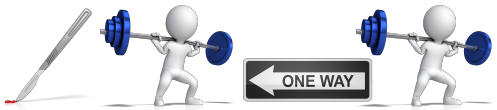
[publication info]

Cochrane Library

Cochrane Database of Systematic Reviews

Surgical versus conservative interventions for treating anterior cruciate ligament injuries (Review)

Monk AP, Davies LJ, Hopewell S, Harris K, Beard DJ, Price AJ



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MEDICINE & SCIENCE IN SPORTS

Factors associated with playing football after anterior cruciate ligament reconstruction in female football players

A. Fältström[1,2], M. Hägglund[3], J. Kvist[1]

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Return to sports after anterior cruciate ligament injury: neither surgery nor rehabilitation alone guarantees success—it is much more complicated

R Thomeé,[1] M Waldén,[2] M Hägglund[3]

UNTIL FURTHER EVIDENCE IS FOUND REGARDING IF, WHEN AND HOW TO SUCCESSFULLY AND SAFELY RETURN TO SPORTS AFTER AN ACL INJURY, IT SEEMS NECESSARY THAT SURGERY AND REHABILITATION BE INDIVIDUALIZED.

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Optimization of the Return-to-Sport Paradigm After Anterior Cruciate Ligament Reconstruction: A Critical Step Back to Move Forward

Bart Dingenen[1,2] · Alli Gokeler[3]

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Preoperative quadriceps strength is a significant predictor of knee function two years after anterior cruciate ligament reconstruction

I Eitzen,[1] I Holm,[2] M A Risberg[3]

Contents lists available at SciVerse ScienceDirect
The Knee

Pre-operative quadriceps strength predicts IKDC2000 scores 6 months after anterior cruciate ligament reconstruction

Daniel Logerstedt [a,b], Andrew Lynch [a], Michael J. Axe [c], Lynn Snyder-Mackler [a]

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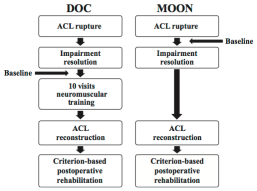
Does Extended Preoperative Rehabilitation Influence Outcomes 2 Years After ACL Reconstruction?

A Comparative Effectiveness Study Between the MOON and Delaware-Oslo ACL Cohorts

Mathew J. Failla,*† PT, MSPT, SCS, David S. Logerstedt,†‡ PT, PhD, SCS, Hege Grindem,§ PT, PhD, Michael J. Axe,‖ MD, May Arna Risberg,§¶ PT, PhD, Lars Engebretsen,¶# MD, PhD, Laura J. Huston,** MS, Kurt P. Spindler,†† MD, and Lynn Snyder-Mackler,†‡‡ PT, ScD, SCS, FAPTA



Conclusion: The cohort treated with additional preoperative rehabilitation consisting of progressive strengthening and neuromuscular training, followed by a criterion-based postoperative rehabilitation program, had greater functional outcomes and RTS rates 2 years after ACLR. Preoperative rehabilitation should be considered as an addition to the standard of care to maximize functional outcomes after ACLR.

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Scand J Med Sci Sports 2013: 23: 327–340
doi: 10.1111/sms.12203

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ADHERENCE

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EMOJI RATING SCALE

I AM SAD

FEED-UP FEED-BACK FEED-FORWARD

Goals

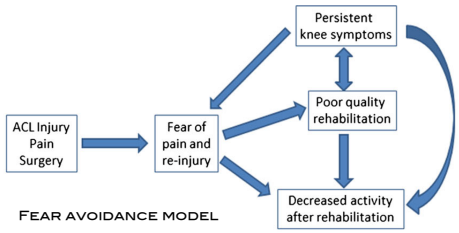
1.
2.
3.

Knee Surg Sports Traumatol Arthrosc (2015) 23:732–702
DOI 10.1007/s00167-013-2699-1

KNEE

Psychological predictors of anterior cruciate ligament reconstruction outcomes: a systematic review

Joshua S. Everhart · Thomas M. Best · David C. Flanigan



FEAR AVOIDANCE MODEL

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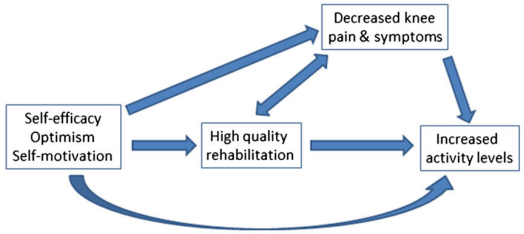

SELF EFFICACY MODEL

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Knee Surg Sports Traumatol Arthrosc (2013) 21:752–762
DOI 10.1007/s00167-013-2699-1

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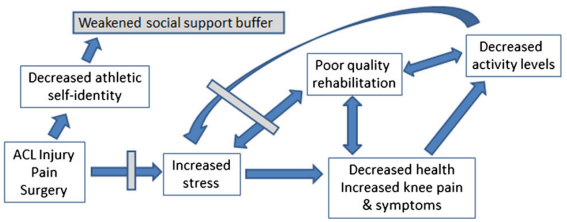

BUFFERING HYPOTHESIS SOCIAL SUPPORT

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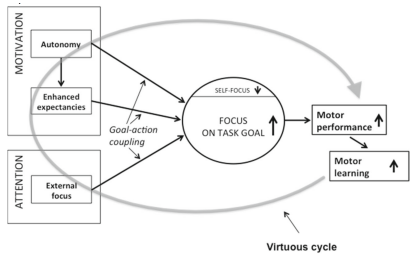
Psychon Bull Rev
DOI 10.3758/s13423-013-0499-6

THEORETICAL REVIEW

Optimizing performance through intrinsic motivation and attention for learning: The OPTIMAL theory of motor learning

Gabriele Wulf · Rebecca Lewthwaite

OPTIMIZING PERFORMANCE THROUGH INTRINSIC MOTIVATION AND ATTENTION FOR LEARNING



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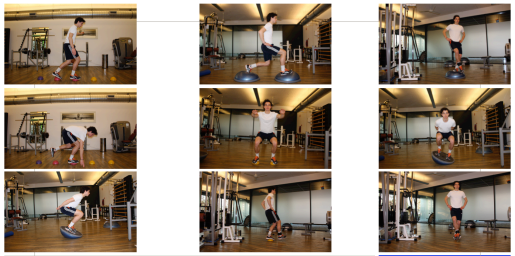
AUTONOMY
SELF CONTROL



CHOOSE YOUR 3 EXERCISES

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frontiers in
PSYCHOLOGY

REVIEW ARTICLE
published: 11 January 2013
doi: 10.3389/fpsyg.2012.00611

Understanding self-controlled motor learning protocols through the self-determination theory

Elizabeth A. Sanli[1], Jae T. Patterson[2], Steven R. Bray[1] and Timothy D. Lee[1]*

INSTRUCTIONAL LANGUAGE

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ENHANCED EXPENTANCIES

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Take home message

How I deal with my problems

Multivariate approach
Knie und Mensch

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