

# REHAB CODE

## **Complexities of the Knee Complex**

Presented by Dr. Jess Elis

Saturday & Sunday, May 16-17, 2025

Navigating the complexities of knee rehabilitation in sports settings demands a nuanced approach. This course delves into key areas such as examination techniques, advanced clinical reasoning, modifications of training related to pathology, and strategic return-to-play decision-making. With an emphasis on actionable insights through scientific principles, the course equips clinicians to tackle common challenges with confidence. By combining evidence-based strategies with practical applications, participants will refine their decisionmaking skills and enhance outcomes for athletes at all level

### **Course Objectives:**

- Review common clinical patterns of different knee diagnoses
- Reviewing thorough clinical examination with subsequent comprehension of functional movement patterns
- Applying pragmatic principles of examination to treatment integration
- Investigate cost-effective and practical methods for assessing knee force
- Review of neurodynamics and understanding the influence of regional interdependence
- Review fluid dynamics and strategies to prepare the knee for sport
- Educate on different manual therapy techniques of the lower extremity
- Integration of PNF and novel knee exercises for the athlete
- Discussion of return to play testing and KPIs for athlete clearance

## **Dr. Jess Elis, PhD, FAAOMPT, OCS, SCS, COMT, CSCS**

Jess is a seasoned leader with over 16 years of experience, including a decade focused on the health management of professional athletes. His expertise spans both the elite sports private sector (EXOS) and professional team sports (New York Knicks, Portland Trail Blazers), providing him with a unique perspective on human performance. From an educational perspective, he has successfully founded and operated two continuing education companies, demonstrating his expertise in professional development. Additionally, he served as a mentor and consultant for Arizona's largest private physical therapy practice, offering strategic guidance and fostering growth within the organization.

### **Course Schedule:**

#### Course Pre-Work – Online Lecture

Total Duration: Approximately 240 minutes (4 hours) of lecture content, divided as follows:

Reasoning: ~60 minutes  
Structure: ~60 minutes  
Function: ~45 minutes  
Sport: ~60 minutes

\*Course Pre-work is a required component of this course, and our Teachable learning platform produces reports on the successful timed completion of each course participant.

#### DAY 1

|               |                                                                                                                                                                                                                                                          |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8:00-8:20am   | Introduction of instructor and participants<br>General questions on pre-course material and course expectations                                                                                                                                          |
| 8:20-9:00am   | Understanding knee biomechanics and common pathologies <ul style="list-style-type: none"><li>• Discussion of common knee pathologies and implications (20 min)</li><li>• Review of fluid dynamics &amp; effusion/palpation assessment (20 min)</li></ul> |
| 9:00-9:20am   | Clinical examination nuances and PEARLS <ul style="list-style-type: none"><li>• Restoring Full Knee Extension, Accessory Rotation (20 min)</li><li>• Quad and Hip Strength/Coordination Assessment (20 min)</li></ul>                                    |
| 9:20-9:30am   | Bathroom break (10 min)                                                                                                                                                                                                                                  |
| 9:30-11:00am  | Clinical Tinkering > Seamless Integration into Manual Therapy (20 min)<br>Quad specific Manual Therapy: <ul style="list-style-type: none"><li>• Soft tissue Techniques (40 min)</li><li>• Joint Mobilizations (30 min)</li></ul>                         |
| 11:00-11:10am | Bathroom break (10 min)                                                                                                                                                                                                                                  |

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| 11:10am-12:00pm | Force Assessment and Testing Setup of the Quad and Hamstring Complex (50 min)                                                                                                                                                |
| 12:00-1:00pm    | Break for Lunch (60 min)                                                                                                                                                                                                     |
| 1:00-2:00pm     | Manual Resisted Exercises (60 min)                                                                                                                                                                                           |
| 2:00-3:00pm     | Functional Expression of the Knee <ul style="list-style-type: none"> <li>• Assessment of Constraint-Based Movement and Compensations (40 min)</li> <li>• Fluid Dynamics - Applying Bernoulli's Principle (20 min)</li> </ul> |
| 3:00-4:00pm     | Review of Isometrics <ul style="list-style-type: none"> <li>• Yielding, Overcoming, Quasi: Demonstrating and Training (30 min)</li> </ul>                                                                                    |
| 4:00-4:10pm     | Bathroom break                                                                                                                                                                                                               |
| 4:15-5:00pm     | Quad + Soleus Synergy and Training Integration <ul style="list-style-type: none"> <li>• Training Strategies</li> </ul>                                                                                                       |
| 5:00-6:00pm     | NMES assisted strengthening (60 min)                                                                                                                                                                                         |

## DAY 2

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| 8:00-8:20am     | Hamstring Complex and Strain 101 <ul style="list-style-type: none"> <li>• Biomechanics and function of the HS (20 min)</li> </ul>                                                                                                                                   |
| 8:20-9:20am     | Examination and Manual Therapy Interventions - Hamstring + Popliteus Complex <ul style="list-style-type: none"> <li>• Soft tissue and neurodynamic techniques (40 min)</li> </ul>                                                                                   |
| 9:20-9:30am     | Bathroom break                                                                                                                                                                                                                                                      |
| 9:30-10:15am    | Training Strategies for the HS Complex <ul style="list-style-type: none"> <li>• Hip vs Knee dominant HS training (30 min)</li> </ul> Training Strategies for the Popliteus <ul style="list-style-type: none"> <li>• Integrated MRE and training (15 min)</li> </ul> |
| 10:15-11:00am   | Plyos Progressions <ul style="list-style-type: none"> <li>• Intensives vs Extensives variations (45 min)</li> </ul>                                                                                                                                                 |
| 11:00am-12:00pm | Tendon Talks (60 min)                                                                                                                                                                                                                                               |
| 12:00-1:00pm    | Break for Lunch (60 min)                                                                                                                                                                                                                                            |
| 1:00-2:00pm     | Deceleration Continuum (60 min)                                                                                                                                                                                                                                     |
| 2:00-3:00pm     | Return to Play: Decisions and Management (60 min)                                                                                                                                                                                                                   |