TRANSFER OF A JUMP-LANDING TASK TO SIDESTEP CUTTING: IMPLICATIONS FOR ACL INJURY PREVENTION

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How do movement patterns that are learned carry over to the field??

1) **Retention**: Same task as practiced

2) **Transfer**: New (variation of the) task
PERFORMANCE - TEMPORARY FLUCTUATIONS IN BEHAVIOR THAT ARE OBSERVED AND MEASURED DURING TRAINING OR INSTRUCTION OR IMMEDIATELY THEREAFTER

LEARNING - RELATIVELY PERMANENT CHANGES IN BEHAVIOR THAT SUPPORT LONG-TERM RETENTION AND TRANSFER
EXTERNAL vs INTERNAL
CHOKING UNDER PRESSURE

Knowledge, knerves and know-how: The role of explicit versus implicit knowledge in the breakdown of a complex motor skill under pressure

R. S. W. Masters*

No explicit knowledge available? > No reinvestment possible in coordination of movement
1) OBJECTIVE: TO DETERMINE IF TRAINING DURING A JUMP-LANDING TASK WOULD TRANSFER TO LOWER EXTREMITY KINEMATICS AND KINETICS DURING SIDESTEP CUTTING.

2) INVESTIGATE THE TIMING OF FEEDBACK
Methods
Methods

While jumping...

1) **INTERNAL FOCUS**: Extend your knees as rapidly as possible

2) **EXTERNAL FOCUS VERBAL**: Push yourself off of the floor as hard as possible

3) **EXTERNAL FOCUS VISUAL**: Try to imitate this expert video as best as possible
Methods

PRETEST

TRAINING 1

SELF-CONTROLLED FEEDBACK

TRAINING 2

POST-TEST

LESS SCORE

RETENTION

TRANSFER
Enhanced retention of drop vertical jump landing technique: A randomized controlled trial

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Results - retention
Results - timing requested feedback

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PRELIMINARY!
Discussion

1) External Focus

EXTERNAL FOCUS/IMPICIT

2) Individualized Feedback

INDIVIDUALIZED

3) Alternation Between Observation & Practice

VISUAL/IMAGERY LEARNING

4) Self-Controlled Feedback

SELF-CONTROL
THEORETICAL REVIEW

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

Gabriele Wulf¹ · Rebecca Lewthwaite²,³

SELF-CONTROLLED FEEDBACK (MODE/TIMING)