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Name of Presenter: __Arne Ekeland__

TITLE and AUTHORS: ___Injury mechanisms of ACL rupture in alpine ski racing_____

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- The Hypothesis – What is the question?

Several injury mechanisms for ACL rupture have been described in alpine skiing. The purpose of this paper was to study injury situations using a model based image-matching technique for 3D motion reconstruction from uncalibrated 2D videosequences.

- Method – How was the question investigated?

Videotapes of knee injury situations were obtained from international alpine races. Tapes where an ACL rupture occurred where analysed using a model matching method based on a commercially available 3D animated human model (Poser, Curious Labs Inc.). In the Poser interface one or more video sequences are imported to the background for the animation model frame by frame. The model is then, at each time step, manually fitted to each of the background pictures to obtain the 3D joint angles and positions

- Results – What were the results?
    -Data

Preliminary results have disclosed the injury to occur in a hyperflexed knee with the ski in a partial snow plow position, possibly in accordance with the previously described phantom foot mechanism.

    -Statistical analysis

- Conclusions

3 D biomechanical analyses of videotapes suggest some ACL injuries in alpine racers to occur with a hyperflexed knee with the engaged ski in a partial snow plow position.