



**The Chinese University of Hong Kong
Non-confidential Abstract of Technology Disclosure**

Title:

**A Mechanical Free-fall Platform for Simulating Ankle
Supination Sprain Injury**

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Patent Status:

US Patent Pending

Inventor(s):

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Non-confidential abstract:

Ankle sprain injury is the most common single type of sport injury. In studying ankle sprain motion, trap-door and inversion platforms were commonly used. However, these devices introduce a rather pure inversion at the ankle joint. In fact, most ankle sprain injuries comprise of a combination of inversion and plantarflexion, and such motion is termed supination. The present device is designed to simulate the supination in order to better study the ankle sprain biomechanics and to evaluate the biomechanics effect of prophylactic device in ankle sprain prevention. The present device consists of a single hinge joint which is adjustable from pure inversion to pure plantarflexion. The human foot in test is maintained in an anatomical stable position before the sudden simulated supination motion. This allows a wide variety of sub-injury ankle sprain motion to be simulated and studied. The device consists of a free-fall mechanism and does not require any force or torque introduced by machine, therefore, the manufacture of this device is simple and inexpensive.

For further queries, please contact:

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