

Chatellerault, the 20th of december 2016

CONTEXT

When our first final prototype was finished, we run some tests at the CRITT SL laboratory in Chatellerault, an independent testing provider accredited by COFRAC (the sole accreditation body in France).

PROTOCOL

> **21 falls** with different intern pressures were simulated with a standard pad and with Hip'Air.

> The force transmitted on the hip is measured by an anvil in the center of the test tray.

> Simulation of a **1 meter fall** with a mass of 3.2kg = 50 joule (senior fall conditions)

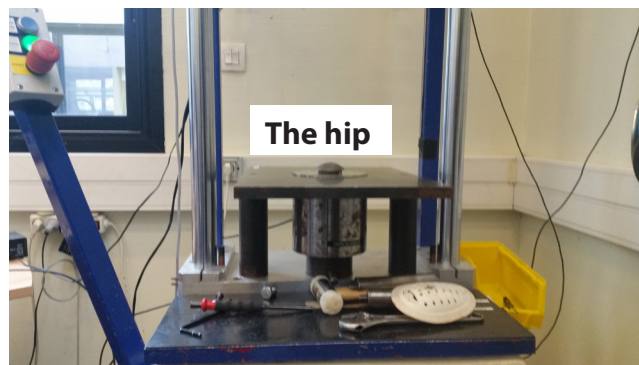
TESTS OBJECTIVES

1 Evaluate and validate the level of protection of Hip'Air

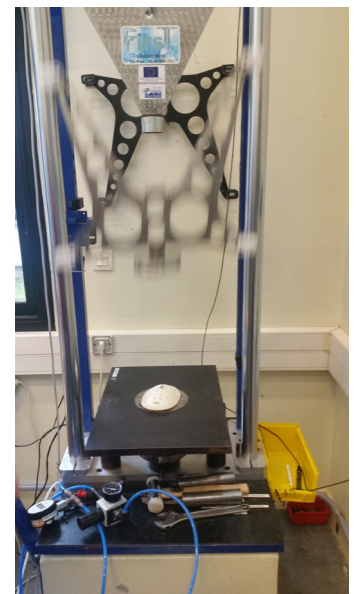
Compare Hip'Air protection with a standard hip pad. **2**

3 Analyse shock absorption and impact force of both devices.

TEST CONDITIONS



WITH A STANDARD PAD



WITH HIP'AIR



THE RESULTS

After the test, we analyse all the results and realize a graph to observ the difference between both protections. The results were impressives !

ANALYSIS

Impact forces :

Hip'Air : 600 newton.

Standard pad : 16,000 newton.

Hip Fracture : 2,000 newton.

Hip'Air reduces by **90%** the impact forces and offers an **OPTIMAL PROTECTION** against hip fractures.

Shock absorption:

Hip'Air : absorbs and spreads the energy in a large area and thus reduce the force transmitted on the hip.

Rigid hip pad: spreads the energy only in a small area and thus doesn't absorb the shock.

Hip'Air has **9 TIMES** better shock absorption

