Abstract

Title

Effect of shooting stances on ballistic protection of the shooter

Objectives

The goal of this thesis is to develop a method which could measure ballistic protection, which is currently provided by a bulletproof vest to the shooter in a current shooting stance. This work also focuses on analysis of the currently used shooting techniques and shooting stances, comparison of protection they can provide, and last but not least, to fill the gap in literature, wich deals with this issue.

Methods

This is an empirical thesis of observational character. Shooting stances were tested on a camera system named Qualisys. The results were first processed by a program for 3D analysis, and the ballistic protection provided by the bulletproof vest in different positions was calculated in a program for 3D modeling.

Results:

From the measured data, it was found that changing targets to the left (for right-handed) the provided ballistic protection significantly changes to worse. Conversely, when changing targets to the right, the ballistic protection faired the same or slightly better than aiming forward. The worst results of all stances came from the side shooting stance in which the bulletproof vest provided almost no protection.

Keywords

Ballistic protection, shooting stances, Qualisys, 3d analysis, vital zone