

**Brief Report on Research Activities**  
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**Forcible Entry (FE) Test Development Project**

This project is proceeding according to schedule. The project was broken down into several phases as follows:

Phase 1	Pilot studies	Completed
Phase 2	Main data collection	Completed
Phase 3	Standard development	Underway
Phase 4	Effect of the new FE prop on the FF Test	Underway

During the Pilot studies, we explored potential test protocols and equipment configurations. Based on our experience with testing, and in consideration of input from local firefighters (Edmonton Fire-Rescue, Strathcona County and CFB Edmonton) we established six test protocols as follows:

- Tire with 10-lb steel hammer as currently used in the FireFit Test
- Tire with 9-lb dead-blow hammer as currently used in the Selection Test
- CPAT apparatus with 10-lb steel hammer
- CPAT apparatus with 9-lb dead-blow hammer
- Hydraulic apparatus currently used in Canadian Combat Challenge
- Modified “table-top” version of the Combat Challenge apparatus

In Phase 2, we tested approximately 90 firefighters from six civilian and military fire departments (Edmonton, Strathcona County, Victoria, Saanich, CFB Comox and CFB Edmonton) on six different FE tests. The test order was randomly assigned for each subject. Firefighters were dressed in their own personal protective ensemble (PPE) including standard issue self-contained breathing apparatus for their department.

Following each test, firefighters were asked to rate the similarity of the physical demands of the particular FE prop just used to their experience “on the job”. We used a scale ranging from 1 – 7, where a response of 1 indicated a “near perfect match” and a response of 7 indicated “no match”.

Following the completion of the test battery, each firefighter was asked to rate the tests from “best” to “worst”, considering that the goal was to replicate the physical demands of forcible entry tasks in a valid and reliable test.

The apparatus used in the Candidate Physical Abilities Test (CPAT) was rated the highest in terms of similarity to the physical demands of forcible entry experiences on the job. Furthermore, it was rated as the best test to replicate those physical demands.

From a test administration perspective, this apparatus has several distinct advantages. It is a robust mechanical system that is readily calibrated, so variability within and between test sites should be minimal. Furthermore, the mean performance time on the CPAT prop was very similar to the mean performance time on the current FE component in the FireFit Test protocol.

There are two more parts of the project to complete. First, we will develop a standard for the CPAT apparatus as a “stand-alone” test. This will allow the use of the CPAT apparatus in the Firefighter Selection protocol.

Second, we will evaluate the effect of substituting the CPAT prop for the current FE prop (tire on table-top) on performance on the FireFit Test. The results of this step will allow a decision to be made regarding changing the forcible entry component of the FireFit Test. Preliminary evaluation of this question suggests that there will be no effect on performance and hence no need to reconsider the current standard on the maintenance test.