

# **The Application of Helicopter Rescue from Fire Casualties in High-Rise Buildings.**

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## **Abstract**

Title : The Application of Helicopter Rescue for Fire Casualties in High-Rise Buildings

Background: In recent ten years, the average death toll of the fire in Taiwan was about 225 persons per year, and the injured victims were about 500-800 persons per year in Taiwan. Half of the fire casualties took place inside the buildings, and the cost of buildings and property damage was at least two billion N.T. dollars in Taiwan each year. When fire arose inside the buildings, it is particularly difficult of personnel flee and performing the rescue. There were many status including the alleys were narrow; illegal parking in the alleyways; installing of the metal window frames or advertising signboards outside of the buildings; constructions without license on the roof platform of the buildings; piling up objects to block the emergency exits; more and more skyscrapers make the availability of aerial ladders and air cushions become limited. Fire casualty in high-rise buildings augments the degree of difficulty in personnel flee and ground rescue. Material and Method: We used questionnaires to investigate the opinions from the victims who experienced two previous fire accidents and were successful rescued by the helicopter ambulance from high-rise buildings. The contents of our questionnaires were divided into three parts including the knowledge of victims about fire rescue before it attack, how to escape from the scene, and which damage they suffered from the fire accidents. Results: We had retrieved 11 questionnaires totally after excluding two persons whom we could not make contact with. The accepting cases included four males and seven females, and the mean age of them was 30.9 years old. The main results were divided into three aspects to descript. First, there were 54.5% of our participators received the education or training course about how to flee from fires before the fire took place. However, none of them had ever heard about the helicopters rescue. Second, when these victims tried to escape from the fire, none of them was aware of the starting point of the fire in which floor and all of them did not know the direction should be upstairs or downstairs to flee. Everyone among all participators chose downstairs to flee; because of they trusted their personal intuition which account for 18.2%, and 81.1% of them merely followed others to flee. Moreover, none of them understood how to use the hoist equipment. Third, no

body got injury or felt uncomfortable after they escape from the fire. Therefore, none of them was sent to hospital or needed medical aid. In my personal opinion, the helicopter rescue has great expectations in fire accidents of high-rise buildings. Conclusion: People are commonly lack of cognition to fire education, especially the helicopter rescue. The government should strengthen and declare the education about the precautions against fire to the people. When people encounter the fire accidents, they should have a plan to run away according to their knowledge about fire education. Moreover, the government should consider that subsuming the knowledge about helicopter hoist equipment into general education of fire control. Victims had great chance to be rescued if they can reach platform on the roof safely and use their cellular phone. In present trend, there will be more and more high-rise buildings to be constructed. Therefore, the difficulties of the rescue become rising. It must be a trend in the future to adopt and give first aid by helicopter rescue, and people also possess a positive attitude to helicopter rescue in fire accidents of high-rise buildings.