



# Cling film plastic wrap: An innovation for dead body packaging, preservation and transportation by first responders as a replacement for cadaver body bag in large scale disasters

Lay See Khoo<sup>a,c,\*</sup>, Poh Soon Lai<sup>a</sup>, Mohd Hilmi Saidin<sup>a</sup>, Zahari Noor<sup>b</sup>,  
Mohd Shah Mahmood<sup>a</sup>

<sup>a</sup> National Institute of Forensic Medicine (NIFM), Hospital Kuala Lumpur, Malaysia

<sup>b</sup> Department of Forensic Medicine, Hospital Pulau Pinang, Malaysia

<sup>c</sup> Southeast Asia Disaster Prevention Research Initiative (SEADPRI), Institute for Environment and Development (LESTARI), Universiti Kebangsaan Malaysia (UKM), Malaysia

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## ABSTRACT

Cadaver body bags are the conventional method to contain a human body or human remains, which includes the use for storage and transportation of the deceased at any crime scene or disaster scene. During disasters, most often than not, the first responders including the police will be equipped with cadaver body bags to do scene processing of human remains and collection of personal belongings at the disaster site. However, in an unanticipated large scale disasters involving hundreds and thousands of fatalities, cadaver body bags supplies may be scarce. The authors have therefore innovated the cling film plastic wrap as an alternative for the cadaver body bag used at the disaster site. The plastic wrap was tested on six different experimental subjects, i.e. both adult and child mannequins; body parts of the mannequin figure (arm and hand); a human adult subject and an unknown dead body. The strengths of the cling film plastic wrap are discussed in comparison with the cadaver body bag in the aspects of costing, weight, duration of the wrap, water and body fluid resistant properties, visibility and other advantages. An average savings of more than 5000% are noted for both adult body wrap and child body wrap compared to the cadaver body wrap. This simply means that the authors can either wrap 25 adult dead bodies or 80 children dead bodies with the cost of 1 cadaver body bag. The cling film plastic wrap has proven to have significant innovation impact for dead body management particularly by the first responders in large scale disasters. With proper handling of dead bodies, first responders can manage the dead with dignity and respect in an overwhelmed situation to facilitate the humanitarian victim identification process later.

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## 1. Introduction

Disaster Victim Identification (DVI) operation is not uncommon to the forensic fraternity in any mass disaster incident. The DVI process is an internationally recognised sequence of activities that has been developed over several years, comprises the Scene, the Postmortem (PM), the Antemortem (AM) and the Reconciliation phase, with the aim of positively identify human remains [1]. The whole DVI operation is constructed by multi-agencies, working hand-in-hand to manage victims with dignity and respect [2]. In an

unanticipated disaster, initial scene being the most complicated phase with the influx of various emergency responders to do the rescue task, followed by the other first responders' agencies and police to do scene processing of human remains and collection of personal belongings at the disaster site. Most often than not, the first responders including the police will be equipped with cadaver body bags once the DVI scene recovery commences. These body bags are designed to contain a human body or human remains, used for the storage and transportation of the deceased. The dead body is 'zipped and sealed in a blanket' as the cadaver body bag is waterproof and capable to prevent leakage of body fluids. In large scale disasters involving hundreds and thousands of fatalities, cadaver body bags supplies may be scarce. In such situation, there is a high possibility of bodies not being gathered rapidly and amounting to great delays for bodies to be located at the temporary

\* Corresponding author at: National Institute of Forensic Medicine, Hospital Kuala Lumpur, Jalan Pahang, 50586 Kuala Lumpur, Malaysia.  
E-mail address: [khoolaysee@yahoo.com](mailto:khoolaysee@yahoo.com) (L.S. Khoo).

body holding area at the scene. The objective of the article is to innovate a cling film plastic wrap as an alternative for cadaver body bag in large scale disasters. The costing and duration of the wrapping as well as the water proof property are compared against the conventional heavy duty cadaver body bag used in disasters.

## 2. Methodology

### 2.1. Material

Cling film plastic wrap is a thin plastic film widely used in many sectors ranging from small household, commercial to industrial applications. It is a multipurpose wrap commonly used for sealing food items in container, securing and protecting luggage before checking-in to aircraft cargo as well as wrapping of arms and stomach areas in slimming centres. The cling film plastic wrap comes in many sizes and colours (Fig. 1). These plastic wraps are also easily available at any hardware shops. In this research, I have used the transparent type to wrap my subjects as shown in Fig. 2. It is a pallet roll of 50 cm tall  $\times$  250 m long with the weight of 3.0 kg



Fig. 1. Types of cling film plastic available.

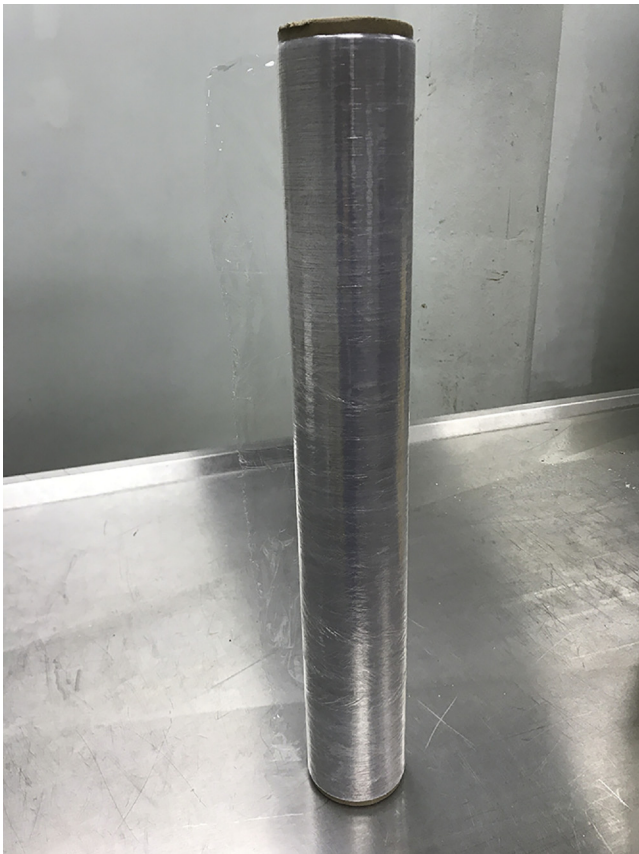


Fig. 2. Cling film plastic wrap used in this research.



Fig. 3. An adult mannequin.

purchased at the price of RM 30.00 per pallet (approximately USD 7.00 at the exchange rate of 1 USD to RM 4.30).

### 2.2. Subjects

The authors have used different sets of dummy subjects to test out the cling film plastic wrap. The authors used both adult (Fig. 3) and child mannequins (Fig. 4); body parts of the mannequin figure (Fig. 5a); a human adult subject (Fig. 6) and lastly an unknown dead body (Fig. 7).



Fig. 4. A child mannequin.

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