Close to the Body and Body Cavity Suicide Bombs

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Recommended Citation
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The variation in human borne suicide bomb types used by terrorist organizations is much broader than is typically realized due to a number of iterations that have taken place over the course of decades. In this installment of the terrorism futures series, the more specialized close to the body and body cavity types will be focused upon. In addition, HAZMAT (hazardous materials) variants will be discussed along with the future potentials of these devices and the increased security interest in detecting them.

Suicide Bomb Iterations

Suicide bomb use can be traced back to at least the late 19th century and has had relatively high frequency of use since the early 1980s:

Literally thousands of suicide bombings have taken place since Polish anarchist Ignacy Hryniewiecki assassinated Czar Alexander II of Russia in 1881 by throwing a bomb at the Czar (Hryniewiecki died from wounds suffered from the resulting blast). Modern suicide bombings, however, have their historical origins in military force-on-force actions that then saw irregular forces and urban guerrillas transition into modern terrorists utilizing such devices [1].

While not specifically involving a ‘suicide bomb’, the known frequency of deaths to anarchists from such actions would mean that the bomber recognized it as a likely ‘suicide mission’. World War II and Vietnam War era suicide bomb use for force-on-force engagements transitioned into Hizbollah suicide attacks on Israeli Defense Forces in southern Lebanon. These, in turn, gave way to suicide attacks by various terrorist organizations against civilians and other non-military targets. During this period, a transition from destructive to disruptive targeting took place. As a result, the explosive devices utilized were no longer necessarily military grade. Improvised equipment thus took
precedence due to both the inability to acquire military munitions and the increasing need for creative ways to bypass security in order to deliver bombs to their targets [2].

A specialized variation of such terrorist devices are those meant to be much harder to detect than a traditional suicide bomb such as a military grade explosive satchel. These stealthy devices are utilized against hard targets (i.e. those with high levels of security projecting them) as opposed to conventional explosive devices utilized against soft targets (i.e. undefended ones). The trade off with such specialized devices is one between increased non-detectability and decreased functionality.

Low-to-no metal content as well as limiting the release of explosive trace vapors (or using less favored chemical compounds not normally searched for) and relying upon creative detonation protocols is strived for in these bombs to elude typical screening measures. Due to these bomb masking approaches, these types of explosive devices are more prone to either malfunction and lack of detonation or even pre-detonation such as in the case of TATP (triacetone triperoxide) based bombs [3]. Lethality levels of these explosive devices, however, also generally dropped as less metal content (lack of rigid containment) resulted in less pressure build up and fragmentation effects.

Close to the Body Suicide Bombs
For some decades now, overt suicide satchels, vests, and belts have been replaced in terrorist attacks on more heavily guarded venues, gatherings, and individuals by close to the body bombs—that is, bombs under the clothing of the perpetrator and/or close to their skin [4]. The intent is to mask the presence of the explosive devices from the view of security forces—be they law enforcement, military, state agents, or private contractor.

Such close to the body explosive device incidents readily number in the dozens and have resulted in the death and injury of hundreds of, if not well over a thousand, civilians and state security personnel. The attackers have utilized both traditional garments—such as turbans, robes, and burqas—under which bombs have been hidden as well as Western dress such as large jackets and loose fitting pants with devices strapped to the thighs or ankles. Women have also been made to feign pregnancy (utilized more than once by the Kurdish PKK) with a large explosive payload subsequently detonated.

Knowing that security pat-downs may detect these devices prior to attacking certain targets, terrorist groups have decided to get even more intimate and creative in their hiding of these bombs. As a result, bombs hidden under female breasts and in the genital areas of men and women have been utilized as well as bombs placed inside shoes or in the linings of jackets.
Well known incidents of close to the body bomb use are the December 2001 Richard Reid attempted shoe bomb detonation on American Airlines Flight 63 and the December 2009 Umar Farouk Abdulmutallab attempted underwear bomb detonation on Northwest Flight 253. Not all such attempts have been failures. What is generally forgotten is that such attacks—a case in point is the August 2004 Chechen 'black widow' bombers utilizing bra and/or waist bombs—were successful in bringing down two Russian commercial airliners ninety minutes apart and killing about ninety people. Subsequently, in September 2004, as an outcome of these attacks the US TSA (Transportation Security Administration) made changes to their pat-down policies [5].

**Body Cavity Suicide Bombs**

For extremely high value targets—such as commercial airliners and state officials—increased security protocols (e.g. body scans that peer under clothing and examine shoes and liquids for hidden explosives) have resulted in the shift away from close to the body bombs and the initial fielding of body cavity bombs. These devices are even harder to detect than bombs hidden next to the body but, as a result, suffer even more from decreased functionality and lethality [6].

Projected use concerns over such devices date to at least late 2006 with the Fadhel al-Maliki incident taking place in March 2007 at Los Angeles International Airport (LAX) seen as a classic I&W (indications & warnings) event. Airport travellers do not normally carry wires, a magnet (or rock), and a putty-like substance in their rectums along with manifesting lots of other suspicious behaviors all at once—carrying lots of $100 bills and being unable to account for recent activities for instance.

The first use of a body cavity bomb subsequently took place in Saudi Arabia with the assassination attempt on Saudi Prince Mohammed bin Nayef in August 2009 by Al Qaeda operative Abdullah al-Asiri. This was followed by another incident in December 2012 in which a Taliban agent attempted to kill Asadullah Khalid, head of Aghanistan’s National Directorate of Security, with another rectum bomb. While bin Nayef escaped with only minor injuries, Khalid suffered severe injuries [7]. These injuries could have been worse if it were not for the fact that design limitations of these devices and the water content within the bomber’s body itself dissipates much of the blast effects.

**Biological, Chemical, and Radiological Variants**

HAZMAT dispersal options with these types of explosive devices are chemical, biological and radiological (CBR) in nature. Essentially, a small explosive charge serves to scatter a hazardous substance for antipersonnel or area denial purposes. Chemical agents can range from simple riot control agents through industrial chemicals such as chlorine and phosgene into dedicated nerve agents such as sarin and the various V-series products. Biological substances may include ricin (a toxin), anthrax, HIV, ebola, or pathogens. Radiological elements (e.g. plutonium, uranium et al.) may
include low-level radioactive hospital and fuel wastes along with more dangerous intermediate fuels and high-level fuel and weapons grade materials.

The positive news, however, is attempts to blend HAZMAT materials with close to the body and body cavity suicide bombs has been infrequent at best. At least one hepatitis infected suicide bomber was utilized by Palestinian extremists as well as fragmentation being laced with rat poison (an anti-coagulant) some years ago but both plots proved relatively ineffective—further, the suicide bombs carried were more conventional in nature [8]. Also, since chemical and biological agent effectiveness may be degraded by device detonation, terrorists do not tend to favor this dispersal method. While a radiological device might offer more effectiveness, both the potential metal content of the material itself and its radioactive nature would likely trigger screening sensors protecting more secure targets.

**Future Potentials**

Presently, close to the body and internal body explosive devices utilized by suicide bombers appear on a linear trajectory of design and employment with very limited interest in utilizing them as HAZMAT dispersal devices. Non-detectability of these devices will be stressed over functionality. Disruptive effects—the ‘generation of terror’—will also continue to be stressed over destructive targeting. However, the basic assassination potentials of these devices should not be overlooked. It should be remembered that Rajiv Gandhi, former Prime Minister of India, was killed by a close to the body device carried by a female LTTE operative in May 1991 and Hashmat Khalil Karzai, a cousin of the Afghani president, was killed in July 2014 during a ritual greeting with a 16 year old bomber that detonated an explosive device hidden in his turban [9].

Advances in nanoexplosives represent a wild card in regard to the increased future effectiveness of these devices. Some professionals have discounted the impact such technology may offer while others project future lethality increases [10]. One variant on internal bombs—utilizing basic liquid flammables internally carried to generate arson attacks on commercial aircraft—must also be considered as a potentially dangerous terrorist TTP (tactics, techniques, and procedures) that could emerge.

While close to the body and internal body suicide bombs represent a small percentage of overall suicide bombs that have been deployed, the fact that they are meant to be utilized against hard targets and hence high value in nature makes detecting them of great importance. This has resulted in new forms of screening technologies being developed and even dedicated forums being created so that the heightened threat they represent can be actively discussed by security professionals [11].
Notes


[2] Ibid; for a more in depth overview of these stages, see this essay.


[4] Another variation of these masked explosive devices are those secreted in common objects such as in musical instruments, TV video cameras, and even a watermelon.


[11] One dedicated meeting related to this topic and body cavity smuggling itself is the upcoming Body Search 2015 event set in London in June, [http://bodysearchworld.com](http://bodysearchworld.com). Advanced internal body screening technologies will be presented at this forum.

Tags: airport security body cavity bombs Counterterrorism explosives HAZMAT security suicide bombs terrorism terrorist