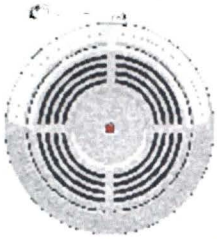

Where there's smoke
by Asa Butcher
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According to the Finnish National Rescue Association and Finland's Safety Technology Authority, 90 people died in fires last year, which is a 23% decrease from 2006's 118 fatalities. Those aged between 40 and 60 were at the largest risk, tobacco was the most frequent cause of fires and many victims were intoxicated at the time of the blaze. However, smoke inhalation is the primary cause of death in victims of indoor fires and the use of a smoke alarm is still one of the safest methods to safeguard against this.

A long time ago my dad told me that nobody had ever died from smoke inhalation in a house with a fully-working smoke alarm, and his words have always stayed with me. I don't know if his statement was completely true, but why play games when it comes to the safety of yourself and your family? When was the last time you checked whether your smoke alarm was operational? Go and do it now before you read any further - most have a small test button, but don't test it with cigarette smoke or a lighted match or this may damage its sensors.

For those of you who continued reading: Does your home even have a smoke alarm? If the answer is no, then you are twice as likely to die in a fire. It's not your landlord's responsibility to fit one, don't rely on your dog to wake you and a fire will not wake a light sleeper... what other excuses do you have for not owning one of these easy to fit, cheap and highly available lifesaving devices? Did you know that smoke can kill you within four-minutes?

However, it seems that there is more to smoke alarms than first meets the eye because there are two types: optical detection (photo-electric) and chemical reaction (ionization). Before I began writing this article I had no idea and now I am worried because it seems that some ionization smoke alarms (the ones that most people have) take over ten minutes longer to go off than the photoelectric... yes, ten minutes! If you are a bit confused, such as myself, then read part of a comprehensive 2004 report entitled *Performance of Home Smoke Alarms - Analysis of the Response of Several Available Technologies in Residential Fire Settings* by the National Institute of Standards and Technology:

"Smoke alarms of either the ionization type or the photoelectric type consistently provided time for occupants to escape from most residential fires... Consistent with prior findings, ionization type alarms provided somewhat better response to flaming fires than photoelectric alarms, and photoelectric alarms provided (often) considerably faster response to smoldering fires than ionization type alarms."

It is not that ionization smoke alarms are better or worse than photoelectric, they just detect something different. The only bad thing is not having one at all and, for the few extra banknotes it may cost, there really is no price you can put on your family's safety.

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Safety organisations recommend at least one smoke alarm per floor of your home, usually located in the hallway or the landing, plus somewhere you are likely to hear it. The optimal position is on the ceiling, near the centre, and it should be at least 30 cm (one foot) from a wall or light. They aren't hard to mount to the wall, but don't use adhesive tape, since it is liable to melt in heat - you can always ask your local fire service for some help, but don't dial the emergency number for that assistance.

- Once a week test each alarm by pressing the test button till the alarm sounds.
- Twice a year change the battery (unless it's a ten-year alarm) - it's suggested you do this the same day you turn the clocks forwards and back.
- Twice a year open the case and gently vacuum the inside using the soft-brush attachment to remove dust from the sensors. If it doesn't open, vacuum through the holes.
- After 10 years it's best to get a whole new alarm.

Last year marked the 40th anniversary of the first home smoke detectors invented by Duane D. Pearsall and it is unknown just how many lives have been saved via this beeping disc-shaped device. For the price of a new DVD you can invest in a decent smoke alarm with dual capability and also buy an extra pack of batteries for six months down the line.