BETTER HEARING AUSTRALIA
Sydney Branch

Smoke Alarms

Information for the Hearing Impaired

This website of information on Fire Prevention and Smoke Alarms for the Hearing Impaired, was developed for our members because it is now compulsory to have a fire alarm in all places of residence. The hearing impaired need to have special types of fire alarms, and these usually involve a strobe light and / or a vibrating pad. An additional reason for this information is that many of our members are elderly, and as a consequence are sometimes more vulnerable to house fires.

Why it is particularly important for people over 65 years of age, to have a smoke alarm:

According to statistics from the USA, once an individual reaches the age of **65**, his or her fire death rate **exceeds that of the national average**; for those **75 and older**, the rate is **doubled**; for those **over 85**, the rate is more than **tripled**!

Why are Older People more vulnerable?

- They are more likely to have **disabilities** such as hearing, vision and mobility loss
- Approximately **314 in 1,000 people over age 65** have hearing loss and 40 to 50 percent of people 75 and older have a hearing loss.
- They may be **bedridden** at the time the fire is ignited
- They may be taking several **medications** simultaneously. Taken together or individually, medications may cause **drowsiness** and **impair judgment**. These effects can increase the chance of unintentionally starting a fire and decrease the possibility of detecting and escaping from it.
- Some older people cannot afford **safe room heating devices**, and use the more dangerous portable space heaters

In the decade to 1999-2000, **88 per cent** of fire deaths occurred in dwellings with **no smoke alarms.**
Each year there are over 10,000 house fires in Australia, causing more than 1,500 injuries and **70 deaths.**

NSW Smoke Alarm Legislation

From 1 May 2006, **all NSW residents** must have **at least one** working smoke alarm installed on each level of their home. This includes owner occupied, rental properties, relocatable homes or any other residential building where people sleep.

What happens if you don't comply with the legislation?

A person who does not comply with the legislation is guilty of an offence. There is a **maximum penalty $550**. Also, **fire insurance may become void**. Residents **must not** remove or interfere with the operation of smoke alarms installed in such buildings.

What happens when a fire begins?

Smoke can fill all the rooms in **just a few minutes**, long before heat and flame have spread. Most people who die are killed by **toxic smoke and carbon monoxide**. Many are never touched by flames. Most deaths occur at night because people are deeply **asleep.**

You can't smell smoke when you're asleep!

A smoke alarm is your safeguard against fire danger because it senses the presence of smoke at a very early stage and sounds an alarm. A smoke alarm gives you time to escape.

What type of smoke alarm do you need?

Residents are required to purchase a smoke alarm that has been tested as compliant with Australian Standards (AS3786) and is marked as:

- Approved to AS3786
- Accredited to AS3786, or SSL (Scientific Services Laboratory) listed. Scientific Services Laboratory (SSL) is part of the Australian Government Analytical Laboratories.

Note: Alarms installed prior to 1 May 2006 that do not meet AS3786 are deemed to comply with the legislation.

Landlords are responsible for supplying the smoke alarm(s) and for their installation. They will also be required to install a new battery for each smoke alarm at the commencement of each new tenancy.
Tenants are responsible for the replacement of batteries in battery powered smoke alarms not in hard-wired smoke alarms.

Smoke Alarms: Which one is right for your home?

1. **240 volt mains Electricity Smoke Alarm**

   Advantages
   - Considered more reliable in the longer term
   - Uses a battery to provide back-up power if the AC power fails

   Disadvantages
   - More expensive and must be installed by a qualified electrician
   - Cannot be moved from one location to another

2. **9 volt Battery smoke alarm**

   Advantages
   - Easy to install and low cost
   - Portable

   Disadvantages
   - Battery needs to be replaced regularly

There are *Two Types* of smoke alarms – *Ionization* and *Photoelectric.*

1. Ionisation smoke alarms

This type detects ***invisible*** particles of combustion. They activate more quickly for fast, ***flaming*** fires with not much visible smoke. They contain a small and harmless quantity of the radio-active substance ***americium-241***.

Advantages
- Cheaper than photoelectric smoke alarms
- Very good with fast flaming fires with little visible smoke and therefore suitable for use in ***kitchen areas***
- Less prone to false alarms due to dust and steam

Disadvantages
- Susceptible to nuisance alarms due to cooking
- May be ***slow to respond to slow smoldering fires***, therefore ***not really suitable for bedrooms or living areas where the occupant may fall asleep***

2. Photoelectric smoke alarms

This type detects ***visible*** particles of combustion e.g. smoldering cigarette smoke. They respond to a wide range of fires, but they are particularly responsive to **smoldering** fires and the **dense smoke** given off by foam filled furnishings.

Advantages
- Best for the kind of smoldering, initially slow and smokey fires caused by cigarettes or heaters. They are therefore particularly suited to ***bedrooms,*** but also good for ***living rooms***
- Considered more reliable in the longer term

Disadvantages
- More expensive
- Prone to nuisance alarms from dust and insects – must be periodically dusted

Smoke Alarms for the Hearing Impaired

There are special ***Smoke Alarm Systems*** available for people who are hearing impaired. Essentially, these consist of 4 units:

1. ***Smoke alarm*** *with* ***transmitter*** (battery or connected to 240V mains electricity)
2. ***Monitor*** *(detects alarm signals* and is plugged in to a mains power point beside your bed)
3. ***Flashing strobe light*** (usually part of the monitor)
4. ***Vibrating pad*** (can be placed under your pillow or mattress).

When the alarm (usually attached to the bedroom or hall ceiling) is triggered by smoke, it emits a loud noise plus a signal (similar to a radio signal), which is picked up by the monitor (which may be in a different room). The monitor then sets off the strobe light and the vibrating pad.

The monitor and strobe light are usually set up beside your bed, along with the vibrating pad under your pillow or mattress. **NB**: The strobe light will only function with 240V main power.

What to look for when you are selecting your Smoke Alarm System

1. Check that the **Vibration Pad** gives a ***powerful shake*** (for example – the Brooks Vibration Pad). Some companies produce VP's with a much weaker shake.

   ★★★★ ***The Vibration Pad has been proven to be the most effective method for awakening the hearing impaired from a deep sleep***.

2. Make sure the strobe light is ***very bright***. Even a very bright strobe awakens only 60% of deep sleepers!
3. If you travel, it is a good idea to purchase a ***fully transportable*** smoke alarm system. This will require a battery–powered smoke alarm.
4. If you have a receiver, pager / personal alarm, telephone and door alerting devices, make sure they will ***interconnect successfully with your new smoke alarms system***. Bellman produces a wide range of these inter-connectable devices.
5. If you are choosing an alarm system for your bedroom, then purchase a ***Photoelectric Alarm*** because the initial fire will most likely be one that smoulders and produces a lot of smoke. Ionization type alarms are not suited to this kind of fire.
6. Buy an alarm with a ***Hush Button*** so that you can quickly silence any false alarms.

Currently available Smoke Alarms for the Hearing Impaired (January 2009)

Brooks, **Bellman** and **Vibracon** all produce smoke alarm systems for the hearing impaired. Essentially the systems consist of a smoke alarm with transmitter, a vibration pad, a receiver and an intense strobe light. The receiver and strobe may be contained in one unit, or they may be 2 separate devices.

Systems cost from $450 to $800

1. ***Brooks Australia***: www.brooks.com.
   4 Pike St, Rydalmere NSW 2166, ***Phone***: 02 9684 1466 ***Fax:*** 02 9638 7700
2. ***Word of Mouth Technology***: www.wom.com.au
   2 Floriston Road Boronia Vic 3155, **Ph** 03 9761 2211, **Email:** info@wom.com.au , **TTY** 03 9761 2184, **Fax** 03 9761 1834
3. ***Vibracon:***
   - **Phoenix Hearing Instruments**: www.phoenixhearing.com.au
     Unit 6, 49 Butterfield St, Herston Q'land. ***Phone***: 07 3852 4622 ***Fax:*** 073852 4633
   - **Digital Access Systems**, 35 Lindsay Street, Plympton SA 5038, ***Phone*** (08) 8351 4256, email: jir10788@bigpond.net.au
   - **Deaf-quip** unit 6/12 Newspaper Place, Maroochydore, Q'land ***Phone:*** 07 5451 0199

Please Note:

Better Hearing Australia (Sydney) is not endorsing or recommending any of these products or companies. It is merely listing them give you an idea of what is available, and to assist you with making your purchase decisions.

NB ***At present, there are no Australian Standards (AS) that apply to smoke alarms for deaf/blind and hearing impaired people.*** If the code number **AS3786 appears** on a smoke alarm for deaf / blind and hearing impaired people, it refers **only to the smoke alarm sensing unit** and **does not** include the flashing strobe light. All three of the following smoke alarms emit a loud alarm sound as well as triggering the strobe light alarm.

Installing and Positioning Smoke Alarms

Smoke alarms can be installed either stand alone or interconnected. Interconnection allows all smoke alarms to sound simultaneously should any one alarm activate. **Children's** bedrooms should have a smoke alarm, and be connected to the parent's bedroom because **children sleep much more soundly than adults**.

Smoke **rises** therefore smoke alarms should be placed on **ceilings** and away from **dead corners**, exposed beams or any other fixture which may **deflect smoke**. If installed on a **wall**, the **top** of the smoke alarm should be located **100-300mm from the ceiling**.

To avoid nuisance alarms, standard alarms should not be installed :

- In **kitchens** or in positions where the normal airflow is through an area where smoke or fumes are generated
- Near **windows**, doors, fans or air conditioners. Excessive air movement may prevent smoke and gases from reaching the smoke alarm or cause nuisance alarms
- In or outside of the bathroom as **steam** may cause nuisance alarms
- Closer than 1.5 metres to **fluorescent** fittings as electrical 'noise' or flicker may affect the smoke alarm

Hush Button: Your alarm hush button allows you to **quickly silence false alarms**. It is an essential feature of smoke alarms

Maintaining your Smoke Alarm

- Smoke alarms should be **tested and cleaned** periodically.
- Smoke alarms have a **test button.** This should be pressed (using a broom handle or similar rod) at least once every month to prove the alarm will sound.
- At least once a year the **fine nozzle of a vacuum cleaner** or a soft brush should be run over the grille area of each smoke alarm.
- In most models when batteries are low the alarm will regularly sound a short "**beep**". This is a **reminder to replace the batteries.**
- **Once a year** batteries should be replaced: for example, on New Year's Day
- Smoke alarms must **never be painted.**

Household Fire Safety Hints

1. Electrical Tips:

- Faulty wiring, overloaded power points and faulty appliances can all start fires.
- Don't do your own electrical wiring, call a qualified electrician and either get broken appliances fixed or throw them away
- Make sure there's plenty of air around your TV, video, stereo and computer equipment so it doesn't overheat
- Don't put electrical cords under rugs, over nails or in high traffic areas, as walking on cords can break wiring and possibly cause a fire

2. In the Kitchen

- About 30% of house fires start in the kitchen - don't leave the room while food is cooking on the stove.
- Keep curtains, electrical cords, tea towels and loose sleeves well away from a hot plate or gas flame.
- If a fire starts, put a lid over the burning pan or use a fire extinguisher; never move a fire.
- Never throw water on a burning fat or oil fire as it will cause an explosive reaction and spread the fire dramatically

3. General Tips

- Make sure cigarette butts are put out properly before throwing them away and never smoke in bed. Tiny embers can smoulder in the bedding without you noticing and burst into flames later

This site "Smoke Alarms: Information for the Hearing Impaired" was prepared by Louise Kelly, at Better Hearing Australia (Sydney Branch) for the benefit of all hearing impaired adults (updated January 2009).