



# *Security Guide*



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## To analyze the risks at home and leisure time

Home is a surprisingly dangerous for Finns! No less than two accidents of three takes place at home or during leisure time, for example at the summer cottage and when doing activities.

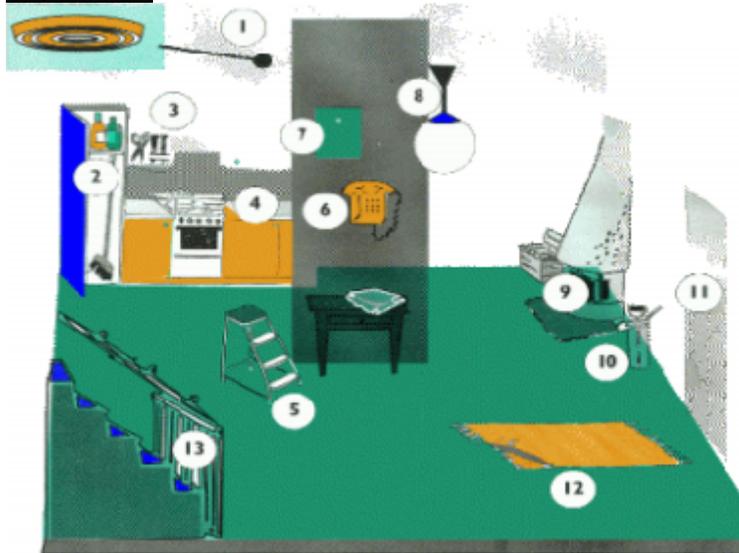
We are used to think home as a safe nest, so we do not often recognize risks. In Finland there happens about 700 000 home- and leisure time accidents, where over two thousand people gets killed and about 50 000 are hospitalized.

Most of these accidents could have been avoided! Accident risks should be survived, as one can protect himself quite easily.

Finns don't luckily have to protect their houses from severe earthquakes, mudslides or volcanic eruptions. The nature can still be formidable opponent for us as the near-term floods and storms have shown us.

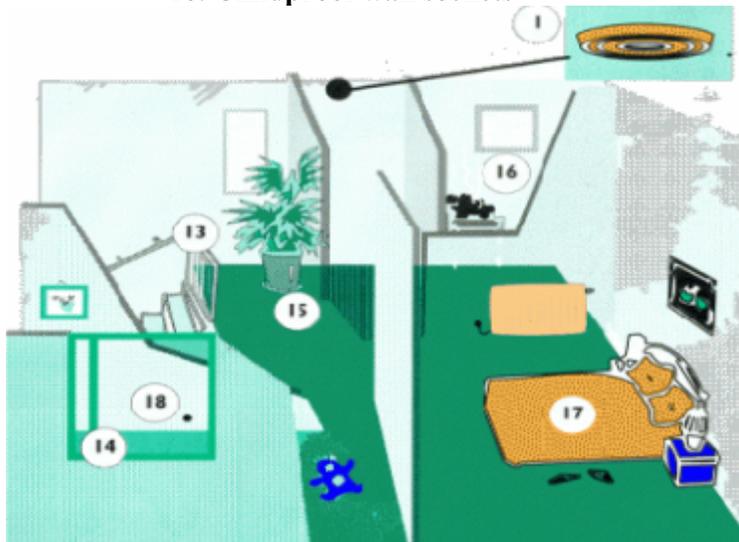
Social disturbances: storm can rapidly interfere our daily routines. It can block the traffic for a long time and disconnect electricity for several days. Therefore, home supplies secure food for one week, but is there an alternative for electronic heating and a radio, which operates with batteries.

### Safe home





1. Smoke alarm
2. Toxic chemicals
3. Sharp objects
4. Safety shield on the kitchen stove
5. Stable household ladders
6. Emergency number **112** is present
7. Medicine cabinet
8. Good lightning
9. Fire guard
10. Extinguisher
11. Rear locking and security lock
12. Anti-slip underlay
13. Child gate
14. Window holders, that child can't open
15. Non- poisonous houseplants
16. Do not dry laundry above sauna stove nor electric heater!
17. Do not smoke in bed
18. Childproof wall sockets



## Toxic substances

The kitchen, bathroom and garage are the most poisoned places of the house. The most toxic chemicals are machine dishwashing detergent, opening of the tube materials, solvents, paints and coolants. These substances as well as medicines should be kept carefully in their original packages out of the children's reach. On toxic substances, there are warning signs that reflects the effects of substance.



### Very toxic/toxic

The skull sign warns of chemicals that can kill even in small doses. It also can cause cancer and other long-term effects. These toxic substances are for example the boat bottom paints and chemical toilet disinfectants.



### Corrosive

Corrosive chemicals destroy the tissue in contact with skin, respiratory organs, eyes or stomach. Household chemicals are corrosive materials such as tube opening materials.



### Harmful / irritant

Machine dishwashing detergent, solvents, cleaners, paints and coolants are harmful chemicals, which can irritate the skin, respiratory system and eyes.

## Dangerous for the environment



The sign where there is a dead fish at the foot of the tree warns naturally very recalcitrant substances which accumulate along the food chain predators and people or are otherwise harmful to the environment.

There should always be charcoal for poisoning accidents. The First Aid of poisoning accidents is told here. If you suspect poisoning, call the Poison Information Centre immediately and ask for advice.

Poisonous plants are dangerous especially for children. Ornamental plants are also plenty of non-toxic alternatives. Common poisonous plants are the poinsettia and Christmas roses, Monstera, Sansevieria trifurcata and most Zantedeschias. Poisonous ornamental shrubs are Laburnum alpinum, Taxus, Rhododendron and Symporicarpos. Toxic organic crops are among others Lily of the Valley, Polygonatum odoratum, Paris quadrifolia and Daphne mezereum.

Household hazardous waste are discarded medicines, scrap batteries, and heavy metal batteries, thermometers, waste oil, paints, glues, varnishes and impregnating products, solvents and pesticides and broken fluorescent tubes.

Hazardous waste may not be spread in the environment. They are disposed of by bringing municipal reception centers. One can get additional information of hazardous waste from the municipality environmental authorities

**The Poison Information Centre**  
**Tel. (09) 471 977**  
**central (09) 47 11**  
**(24hours)**

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## Electrical Safety

As electrical accidents are considered accidents where a person has an electric shock or other injury caused by electric shock. In addition, injuries caused by an electric arc are considered as electrical accidents. About 50 electrical accidents happen yearly, most of them to nonprofessionals.

Incorrect operation or human error is the most common reason for electrical accidents. The second most common cause is equipment or system, which has, become dangerous. New equipment or installation error is seldom the reason for an electrical accident.

In an electric shock, the most dangerous is ventricular fibrillation of heart and different internal burns. When a man has to part of the electrical circuit, he is not usually able to release wires or equipment because of muscle spasms. The rescuing person should first cut off the electricity or at least isolate himself before disconnecting the victim from electronic device.

In Finland SAFETY TECHNOLOGY AUTHORITY (TUKES) controls the security of electronic devices. From the beginning of 1994 the Electrical pre-inspections are no longer obligatory for devices fabricated in Finland or imported to Finland. Household devices must still full fill EU low voltage directive and EMC-directive requirements for safety and interference. As mark, the fulfillment of the requirements of directives electronic devices must carry a CE- sign.

- To change a fuse-to-fuse box is one of few electrical work, a layperson can perform. The fuse is a security device. It cuts the electricity if there is a technical fault on a device or there is over current. Replace a blown fuse with new one having the same voltage.
- When having small children at home the wall sockets should be covered with protective caps or they should be childproof wall sockets. On new apartments wall sockets are grounded, so when moving from old flat to new one has to be prepared to buy new lamps. The old”ordinary” wires must also be rejected, as they can’t be transformed into grounded ones.

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- When disconnecting a wire hold on the plug do not pull from wire. Twine protected iron power cord must be changed when the twine is worn out. Power cord may not be repaired with a piece of adhesive tape, insulation tape or adhesive bandage; it must be changed to new one.
- When having a bath, shower or swim do not touch electronic devices connected to grid.
- No electronic devices are to immerse in water for cleaning. Unshielded bathroom lighting can be life threatening. Wires and devices used outside must be designed for outdoor use.

### **Home supply is a part of self-preparedness**

One can cope unforeseen situations with less damage, when there is a home supply at home. Home supply means, that there is some extra food and other everyday supplies at home. The home supply should be enough for several days even for one week.

The home supply is normally on everyday life used food and goods, and they are supplemented by the tempo as they are used. On this way, food supplies remain fresh and usable.

Situation, that it's not possible to visit a shop for making shopping may surprise many reasons. Person living alone can fall ill and is unable to make shopping or a family member falls ill. Society can be wounded, there is a strike, transport links are broken or there is a wide blackout disrupts daily life. In addition, there can happen an accident that shops must be closed or there is no going outside. In addition, distribution disorder may prevent the transport of goods on trade market and trade shopping.

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**Home supply is an Economic certainty for an individual home reserve**

- it is composed of conventional foods
- may vary in content according to eating habits
- it contains for example vessels for restoring water, medicines, iodine tablets and households necessity goods
- enough for a week- home supplies is used supplemented continuously

**Home supply for one person for one week**

The home supply can be for example following:

Potatoes 0,5 kg, rice and macaroni 0,5 kg, oil and butter 0,5 kg, sugar 0,5 kg, UHT-milk 1 l and water.

In addition drinks, water and delicacies 16 l + 1 kg, bread and cereal products 1,5 kg, milk and milk products 1,3 kg, fruits and berries 1 kg, vegetables and root vegetables 1,5 kg, meat, fish, chicken and eggs 1 kg.

Do remember separately children, older people and the sick ones! Don't forget water!

The home supplies include also necessity supplies. Those should be reserved for the same period as food. These supplies are personal medicines, toiletries, diapers, radio and batteries as well as flashlight and batteries.

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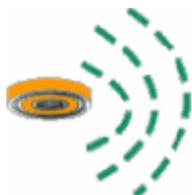
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## *Identify fire risks at home*



Every year about one hundred Finnish peoples dies on fires and about one and a half thousand

Are hospitalized due to burns There is about 14 000 fires yearly. In addition, there are several small fires that people are able to extinguish themselves. The most common reason for fires is negligence

The Rescue services are guiding people to identify the causes of danger, to prevent accidents

In addition, how to behave correctly in a case of an accident. They also give information of fire and how to handle carefully flammable substances and equipment. The Rescue Services expertise is also needed from the perspective of security when designing and constructing buildings and in their maintenance and safe use.

The Rescue Service authorities are in other words preventing accidents by controlling, making fire safety inspections and chimney sweepings. The fire safety inspector can always be called on place, if one is suspicious that the fire safety is not in order.

When the fire is loose, also small children should be aware of how to operate correctly and quickly.

The parents should taught their children that you are not hide fire and by playing one can practice correct escape routes. A part of civics is primary fire-extinguishing skills. The most important is to equip your home with a smoke alarm. It alarms early and then even sleeping one can rescue himself and other people out of poisonous fire gases before they cause unconsciousness and death.

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## *The smoke alarm is cheap lifesaver*

The most of fires causing death have started during night when people are sleeping. Most of the fires take place in block residents. The most dangerous is the smoke, which covers the flat within two to three minutes. If there is a smoke alarm on the apartment, it makes loud alarm sound, when detecting smoke. You have time to rescue. You can also try to extinguish fire start yourself.

In every Finnish household, there should be a smoke alarm nowadays. The smoke alarm became statutory Safety equipment in the beginning of September 2000. Now one must take care of that the smoke alarm maintains operating condition. The maintenance and purchasing of a smoke alarm is the inhabitant himself responsible.

Place the smoke alarm in the middle of the roof in the apartment where smoke can spread without obstacles. With the smoke alarm should follow installation guide and by following it you can find

The right place to your alarm in every flat or another. To a big flat one should purchase more alarms, like in addition to central locations to for example every bedroom.

In two storeys, semi-detached house residents there should be at least two alarms: one to the top end of the stairs and the other downstairs. Especially when there are many floors, smoke alarms should be connected in series. In this way all alarms gives the alarm even though only one detects smoke. The smoke alarm shouldn't be placed in the kitchen, humid places or other places where during one is working can cause false alarm. The smoke alarm normally doesn't make alarm due to tobacco smoke.

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The smoke alarm operates with battery, which are doing to change yearly. Practice method that you change the battery always on the same day yearly, for example 11.2 as the Emergency Number **112**. This way you remember this matter better. The alarm indicates when the battery is weakening by making a signal. This muted sound repeating itself every minute cannot be confused with the loud alarm signal. Latest by then the battery must be changed immediately.

The change of the battery of the smoke alarm is easiest when one purchase a separate battery compartment that is placed on suitable level on the wall. Battery compartments are suitable to almost all models of smoke alarms on sale. There are also smoke alarms on sale with ten years power supply.

The operation of the device needs regular inspections, for example monthly and always when you have been away from home a couple of days.

In the most cases by checking the smoke, alarm the operating condition by pushing the test button of the device. When pushing the button a piping signal can be heard. It indicates that the alarm is in condition.

High up on the roof locating smoke alarm can be tested with the help of for example test stick.

Testing is needed even though the battery is new because there could occur failure on the alarm signal. Especially in unheated local like summer cottage, caravan or boat the alarm can jam. So do test the function of a smoke alarm as your first task upon arrival. Keep a reserve battery with you and be prepared for changing also the whole device for new.

## **Fire safe environment**

It's easier to prevent fire in advance than to extinguish it. That's why one should know what causes fire and identify risks from own neighborhood. One should take into consideration fire safety already when planning a building or when renovating old homes. Everyone can contribute to fire safety in own house by selecting the right kind of materials. The consumer has the right to require information about the fire sensitivity of products from the merchant.

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## *Clothing and textiles*

For ordinary clothes and textiles have no fire safety requirement in Finland. In some countries for example on children's night attires need to be marked out if, they are made from highly flammable material. Clothes on fire dangerous jobs must be labeled with CE-label even in Finland. With this label the manufacturer guarantees that the product fully fills the European Union's fire safety requirements.

To the fire-sensitivity of textiles depends primarily on the fiber material and the fabric finishing with different chemicals. Wool is a material that isn't self-promoting of fire. Of natural fibers, wool and silk are as flammable as cotton and linen. Especially fluff surfaced cotton and acrylic clothes can flame easily. Some clothes are so fire-sensitive that they shoot fire from even a small spark.

There are no non-flammable clothes at all, but in their safety, there are significant differences. For example, the clothes for fire fighters are manufactured from material, which persists for several seconds on fierce fire without flaming.

A thin and loose-fitting cotton clothing flammables easily. Thick and skin-tight cotton clothing flames slower. Protective overalls are manufactured of cotton even for fire danger jobs, but in this case, the fabric is treated with fire protective chemicals, which makes it slowly flammable.

If your clothes burn throw down on the ground and roll yourself until the fire suffocates.

When other people's clothes are burning, pour them to the ground. Suffocate the fire by rolling. Alternatively, turn off the fire with the help of carpet, cover or water. Suffocate the fire by starting from head side, so that you can protect the face from burning. Pieces of clothing, which are burned onto the skin, must not tear off.

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## *Draperies and upholstered furniture*

Fire retardant finished fabrics are used on clothing and in addition to public spaces. These are more expensive than normal household textiles. Fire retardant finished fabrics like cotton are recommendable material especially to the curtains. Most domestic fires have started from curtains, when for example candles are burned too close. Vertical and thin the curtain burns much faster and easier than horizontal textiles. For curtains should not choose the pure acrylic material, which easily melts and splashes also the fire to the environment.

Also for bed linen, one should buy as fire safe material as possible. The mattress cover made of hard-combustible material may prevent the filling from the ignition. To smoke in the bed is though always dangerous!

Furniture shops are nowadays not allowed to sell padded seats or mattresses, which can flame easily from a smelting cigarette. The manufacturer must have the test results. They should be checked especially when cotton and Polyurethane or absorbent cotton has been used in upholstery. These materials are comfortable and popular, but they easily can flame from a smelting cigarette.

## *Carbon monoxide*

Carbon monoxide is gaseous, colorless and odorless compound of carbon and oxygen, which is created by incomplete combustion for example in oil stove or car exhaust. It's a very fast and inconspicuous affecting very dangerous gas, which causes unconsciousness, even in small doses. State of intoxication can be fatal.

Ordinary protection mask does not protect against carbon monoxide. Already 100 grams of wood gives rise to a deadly amount of carbon monoxide if it's burning smelting without sufficient oxygen!

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## *Avoid electrical fires*

- **Unfit electrical wiring must be changed to unbroken ones.** Periodically made inspections of electrical installations is a good way of avoid electricity hazards. Repairs and installation must always be made by professionals. Test facility sign on electronic devices (for example FI-sign) means that independent laboratory testing has proven that the device model is safe.
- **The electronic radiators and extra heaters must never be covered with textiles or other materials.** The equipments should be labeled with security recommendations. Particularly dangerous is the radiant, filament twisted chuck equipped with electric heater. On alike that must be placed far away from armchairs and curtains and other flammable objects.
- **Inside a Sauna stove the heat is 500-600 degrees and above it 140 degrees.** Many fires have started when laundry is being dried above a sauna stove. The manufacturer must attach information about the safety distance from the sauna stove on the stove. Slips and falls can cause burns if the sauna stove is not protected by handrails. Handrails should be placed at least half a meter away from the sauna stove.
- **On lights one must not use lamp with more voltage than allowed according to the lamp.** A clip-mounted spotlight can cause danger of fire when detached.
- **A kitchen stove or iron left plugged can cause danger of fire.** You should purchase iron that turns itself off when not used. On a coffeemaker, there is a heat shield, which turns off the electricity when overheating.
- **Ensure that there is enough ventilation space behind and beside a television and refrigeration equipment.** It's necessary to download the dust of the equipment surfaces. Dusted equipment can easily caught on fire when warming up.
- **If the television or other household equipment lights up on fire, the first thing to do is to unplug devices from wall socket or turn off electricity from the whole apartment.** The fire can be extinguished with a fire blanket or with powder extinguisher or thing carpet. If the situation is not got under control, you should call the Emergency Number **112** and wait until the fire brigade games.

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- On the electronic wires contact surfaces and joints is a danger of over heating, if the contact is too loose, soldering is bad or the wall sockets or there contact surfaces are incompatible.
- Wires must always be unplugged by pulling from plug. One should never unplug wires by pulling from the wire.
- Faulty electrical appliance causes the risk of fire. Always repair the faulty equipment or get a new one immediately.
- There is also smoke alarms, that cut off electricity to the fire alarm reaction.
- Further information [www.tukes.fi/sahkoturvallisuusopas](http://www.tukes.fi/sahkoturvallisuusopas)

### *Candles and open fire*

During the time burning candles, there is a good advice to remember, so that the fire is not destroying the atmosphere. The safest candle is the most beautiful candle.

- A good candlestick is always on upright position, stands still and doesn't get on fire. The candlestick made of metal, porcelain or stone and so on is the safest. Make sure that the candle is firmly at it's holder. Do not use candle-rings made of plastic, paper or fabric.
- Place the candles so that there is no burning material in the neighborhood, next to or above the candles. Mind especially curtains and ornaments. Do not put candles above TV or on a plastic chair on the balcony.
- Keep matches and lights out of the children's reach. Do not leave child or pet unattended with burning candle. Make sure that your child is aware of the dangers of games with candles and matches.
- Leave space enough between candles. The hot liquid in a group of too thigh placed candles can easily burst up. The candles should be place with about 5 cm intervals from each other.
- When extinguishing candles and flares use suppression instead of water. Always use a non-combustible base under candles and thin-based lanterns.

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- **Be careful with solid, thin-based lanterns of glass or porcelain. In cramped conditions, stearine can easily be steamed and burst in flames. A thin-based lantern can pop out and splash the fire into the environment. A safe lantern is sturdy and opens the upper part and inside spacious enough.**
- **Outside flares must be placed on a non-burnable underlay and protected from rain. Place the flares at the courtyards, paths and gateposts within three meters intervals from passages. Use under lays made of stone, concrete, metal or glass and do not leave them unattended. Outside flares are not being burned inside the house or even at the balcony.**
- **The last one always extinguishes candles. Always turn off the candles when leaving the room for longer periods. Burn candles only in the room that one stays in. Never leave candles unattended.**
- **Control the functioning of your smoke alarm. Smoke alarm with functioning batteries only gives alarm.**
- **Be prepared to extinguish fire. Keep extinguishing equipment at hands. It is advisable to rehearse primary fire- fighting skills.**

### *Flammable liquids*



**Gasoline can be stored residential, office, accommodation, day care and assembly apartments max. 25 liters.**

**Instead, in the apartment complex in the common basement and attic spaces neither gasoline nor other flammable liquids should be stored. If there is a separate warehouse, or service- or workshop room belonging to the apartment, one can store 100 liters of gasoline ( or other flammable liquids ) and 200 liters of flammable liquids which flash point is over 55 °C ( for example oil and disloyal ).**

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In a garage or carport one can storage 60 liters gasoline + vehicle's fuel tank and also motor- or diesel oil 200 liters + vehicle's fuel tank. The maximum total for common garages or carports is total for the whole place not per inhabitant.

On Individual cases the Rescue Authorities can give exemptions (for example storing bigger amounts or allow storing in different spaces) or limit the storing when the security so requires.

### **Leave the burning building, but don't get into the smoke**

You and your family should have an escape route planned for in case of fire. You should study together how to escape via doors, windows and exits. If a window must be broken for escaping, how to do it? Agree in advance, where you meet after escaping the burning house. Especially for small children should be emphasized, that they should not hide under the table or in the closet!

Fire exits should always be free from obstacles, so do not lock the Security Lock, when you're inside. You and your family should always get out without a key and the fire brigade in when needed.

If the fire is discovered immediately, one can try to extinguish it. If the fire is spreads rapidly and there is no way of extinguishing it, rescue people in danger, warn others, leave the room and close the door behind you. Call the fire brigade after this from number **112** from a safe place. If you can't escape the usually way, close the doors leading to the room on fire. Call **112** and explain thoroughly where you are. Try to use alternative exit, like window or balcony. If the escaping is impossible, go to next to a window or balcony. Try to attract attention by screaming help, waving clothing or flashing lights, so that the fire brigade finds you. Remember to close the door to balcony, so that the smoke and flames can not spread to the balcony.

### **Smoke gases kills- escape by crawling!**

Carbon monoxide or toxic gases- not in flames or heat usually kill the most victims of fire. Carbon monoxide is dangerous, as it's poisonous. Carbon monoxide odorless, colorless and tasteless gas, so it is extremely difficult to detect.

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If you trapped a fire situation, crawl from the smoke to safety by using room floor's edge. The smoke rises upwards, so bellow it and the heat the oxygen suffices longer. Tessa blaze of fire temperatures may rise by more than 700 degrees, above the knee but only one hundred degrees. Thick wool blanket to protect against heat.

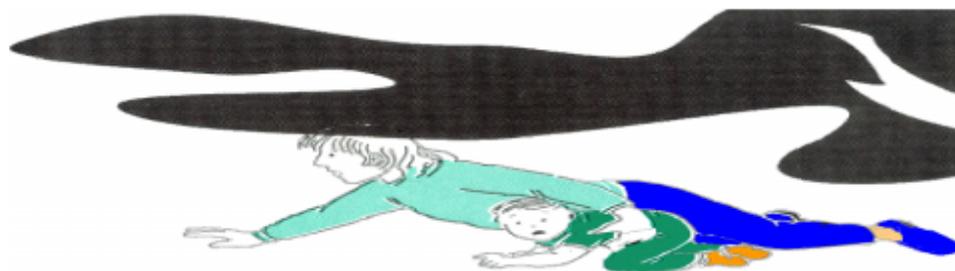
**Do not open hot doors!**

If there is a closed door on you way to escape, do not open it before you know, if there is a fire on the other side. If the door feels hot, there is a fire on the other side, so choose another route. Close all doors behind you. They prevent the fire to extend. This way you and the fire brigade get more time for act.

If the door is not hot, open it a little carefully. Proceed on a floor edge, because underneath

Of the smoke there is possible to breathe. When you have escaped from a burning space, stay away from there. Don't risk your life by returning into the flames and smoke gases, Call **112!**

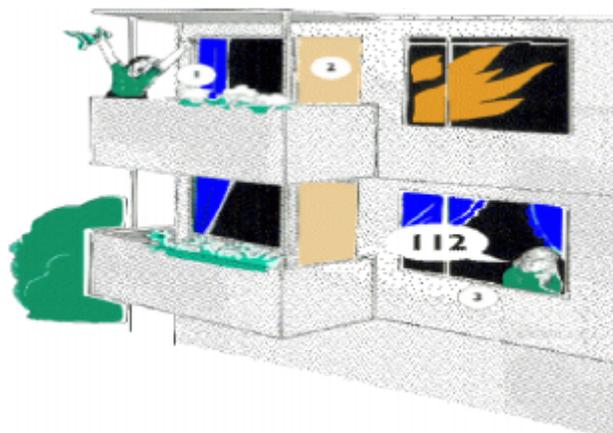
**This is the way to escape from fire**



From the toxic smoke gases, one must rescue quickly. When leaving close all doors and windows. This way you reduce the fire and smoke to spread.

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**There is a fire on an apartment of block resident**



If your own apartment is on fire and you can not extinguish it, close the door leading to the burning room. Rescue everyone in danger and warn other people, leave the apartment and most definitely close the front door. Do not use the lift. Call **112** from a safe place. Guide the fire brigade to the fire-location.

If there is a fire at you neighbors flat, stay in your apartment. Do not go to staircases covered with smoke. The blockhouses are designed to prevent fire to spread from a flat to another. In cities, the fire brigade usually comes to rescue rapidly. It will help you out when needed.

Leave the burning building and help others to escape. Close all windows and doors when leaving. Warn other inhabitants. Call **112**.

Staircases are escape routes so they are to be kept free from any goods (rescue law 32§). The owner of the house is responsible that exits and passages are passable and free from obstacles.

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## *The fire in a detached house resident*

If you can't manage to escape the house via normal way, use window, balcony, ladders or backdoor. Two or more storey-detached house there should be solid ladders to secure escaping if the falling height is greater than 3,5 meters. If there is no ladders, stick to the window frameworks and depend on your hands, so that you'll fall as low as possible.

## Fire extinguishers and primary fire fighting

### Water extinguishers

A bucket hose is very effective primary fire extinguisher. The effect of water based cooling.

As the most effective water extinguishes, when injected in the fine spray into the flames. In addition, a bucket or garden hose are excellent fire-fighting tools.

Quick Fire Posts are installed as permanent primary extinguishing equipment in the buildings.

- Normally in a cabinet, which handles protective glass is violated
- the faucet is opened from the closet and after which the tube is withdrawn from the reel and the end of the hose nozzle is opened
- intended to start fire-fighting for everyone who living in the apartment
- suitable for fiber, paper and wood extinction
- property owner or operator is responsible for maintenance

Water should not be used to extinguishing when liquids or grease is burning.

Water only will to propagate fire outbreaks and the splatters would cause burns and spread the fire. Since water is leading to electricity, burning electronic devices should be extinguished by suppressing of electrical fires, or using a suitable powder fire extinguisher.

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## **Powder, carbon dioxide and liquid fire extinguishers**

Portable fire extinguishers are max. weight of 20 kg. Their use and extinguishing characteristics as well as the subscriptions shall be in accordance with European FN-3 standards.

Portable fire extinguishers are mm. the following requirements :

- extinguisher shall be over at least 1 kg
- extinguisher can be refilled
- extinguisher has a valve that allows disconnection of the extinguishing flow

Portable fire extinguishers are also pressure equipment.

Pressure device holder must ensure the safety of placement and the safety of use of pressure equipment.

Suitability for various portable fire extinguishers to fight fires are most commonly marked with the letters A (fire of solid materials), B (fire of liquids) and C (gas fires).

Portable fire extinguishers can be divided according to extinguishing type for powder extinguishers (95%), carbon dioxide fire extinguishers (3%) and liquid extinguishers (2%).

### **Powder extinguisher**

There is a large variety of powders, but the most common ones in other words ABC- powders are suitable to almost all kind of fires, like solid, liquid or gaseous substances.

### **Liquid extinguisher**

Extinguishing fluids are usually water-based foams; these are suitable for almost all kinds of fires, like solid and liquid based materials.

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## **Carbon dioxide fire extinguishers**

Suitable for liquid and electrical fire extinguishing.

Safety Technology Authority (TUKES) monitors in Finland the compliance of fire extinguishers on the market. Safety Technology Authority (TUKES) starts to take action if the extinguishers do not meet the requirements Non-conforming products may be withdrawn from the markets.

## **To purchase and maintenance a portable extinguisher**

A portable extinguisher is purchased by the order of the authorities, if the regulations so requires, or on your own. Hand extinguisher use is not complicated, but the level of daring to use extinguisher can be high if one has not practiced with portable fire extinguishing. The sellers of portable fire extinguishers are for example hardware stores, supermarket iron accessory departments, car accessory shops and fire extinguisher stores.

On sale there is also so called aerosol fire extinguishers. Aerosol fire extinguishers are not potable extinguishers, but they are consumer products, which have no requirements for fire-fighting properties. Aerosol fire extinguishers are sold separately in hardware stores, supermarkets and department stores. They are small portable fire extinguishers or aerosol cans in appearance and size. Their prices are clearly cheaper than on correct portable fire extinguishers. The Safety Technology Authority (TUKES) and the Consumer Agency are warning consumers to import false sense of security on aerosol fire extinguishers.

In order to ensure consumer safety, the following warning labels are mandatory "Not suitable for a single fire extinguisher because of the weak dimension", "Not suitable for all home fires" , " Does not replace the power of a portable fire extinguisher".

The Rescue Departments and Rescue Unions, Associations and other Training companies organize safety trainings, where using of a portable extinguisher and other primary fire- extinguishing equipments use is practiced with the guidance of a professional.

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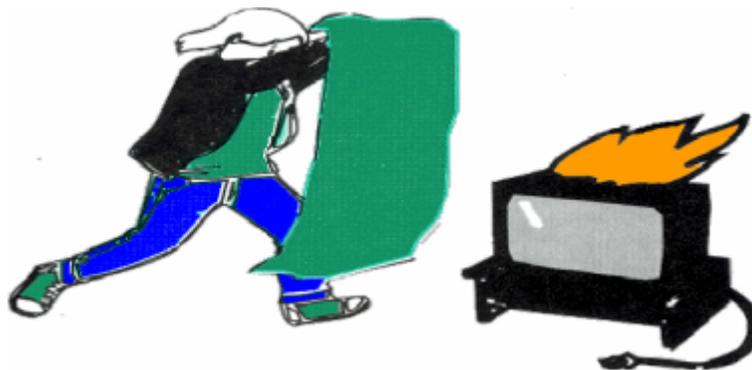
According to the Law of Rescue 22§ the apartment owner must ensure, that the fire-fighting equipment imposed by the authorities are in working order and are well maintained and properly controlled.

The Ministry of the Interior has provided rules of the portable fire extinguishers inspection and maintenance. In there rules is mentioned, that portable fire-extinguishers are to checked at least once a year, if the extinguisher is stored so that it's exposed to effects which can impact the operating state of the equipment, such as humidity, vibration and temperature variation. Otherwise, a fire extinguisher needs to be checked over at least every two years. The first inspection is carried out by two years after the fire extinguishers filling or date of manufacture. Independently, for example a family house purchased fire extinguishers must also be reviewed to ensure proper operation.

Extinguisher shall be maintained in even the slightest use. Extinguisher shall be maintained after every use and otherwise, after the inspection to gives the reason to do so, however, over at least by the manufacturers or importers guidelines stated the maintenance intervals.

Hand extinguisher inspection refers to measures, which states the extinguishers operating condition and by maintenance refers to measures by which the extinguisher will be operational. Hand extinguisher stores inspect and serve portable fire extinguishers. The inspection is made by a legitimate business of portable fire extinguishers maintenance and inspection work authorized by Safety Technology Authority (TUKES).

### *Fire blanket*

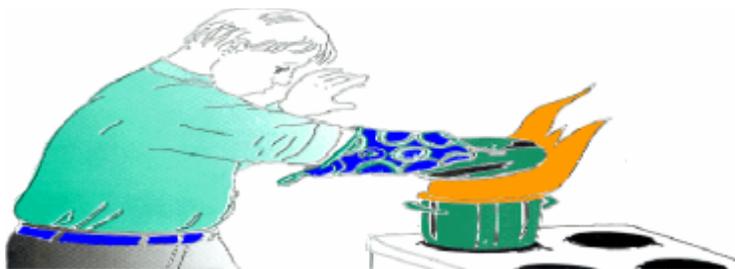


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A fire blanket is suitable for example on grease fires in the kitchens and in the living rooms on TV- fires and on the boats as a primary extinguisher. With the blanket, you can suppress small fires and extinguish burning clothes. A fire blanket is a cheap primary extinguish equipment and it can be used as a emergency stretcher. The fire blanket is to be installed on the wall in order to be reached with orthodox manner and quickly out of the bag, and it is not missing.

Thick and compact carpet, blanket, or fire blanket is often the fastest available primary fire-fighting tool on the house. It is much wiser and faster to suppress the fire immediately with a carpet that run into the kitchen for water, because the fire is spreading meanwhile incredibly fast.



Grease fire in a saucepan is suppressed with saucepan lid.

### *Choose the extinguisher according to the fire*

#### WOOD, FABRIC, PAPER AND INTERIOR MATERIALS

- Powder or water.

#### ELECTRONIC DEVICE

- Powder or fire blanket. Unplug the socket!

#### GREASE FIRE

- Saucepan lid, powder or fire blanket. Stop the cooker hood!

#### GASOLINE, OIL, VARNISH AND PAINT

- Powder or liquid extinguisher.

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## Civil Defence

The distinctive international sign of civil defence is an equilateral blue triangle on an orange ground. The distinctive international sign of civil defence provided for in Additional Protocols to the Genève Conventions (1977, I additional protocol). Genève Conventions are international laws of legal protection of victims of armed conflicts, in the field of respect of human rights in specific situations of war. Conventions protect persons that do not participate in battle: wounded and sick soldiers, war prisoners and civilians. The distinctive international sign of civil defence is used during war to protect civil defence services.

The consent of the Ministry of Interior the distinctive international sign of civil defence can be used during time of peace as a sign for civil defence services. In Finland, the law of certain international code-sharing (L 947/21.12.1979) regulates the use of the symbol.

## Preparedness for civil defence

The Rescue Services are prepared to function even in emergency conditions. Key tasks are threat detection and warning, maintenance of populations defence possibilities and rescue services and taking care of the necessary additional resources, so that functioning in emergency conditions, accidents, and disaster situations is effective.

With civil defence, one means the protection of civilians and property and rescue services in case of an emergency conditions and preparedness for those. The preparedness for emergency conditions in normal conditions is:

- planning and education concerning emergency
- building civil defence shelters
- preparedness for evacuations, rescue operations, First Aid, populations maintenance and clearing and cleaning activities
- maintaining the command, control, alarm systems and communication links

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**The civil defence operations belong to Rescue Service Authorities but also to many other Authorities.**

Under Public Administration under the responsibility of civil defence

- Authorities are planning their operation for different situations of abnormal conditions and emergency conditions and are prepared to protect civilians and properties.
- **Companies, institutions, property owners and citizens self preparedness**
- Self-preparedness is significant under emergency conditions. The property owner or holder, bureaus and companies and institutions are required to prepare to those rescue operations that they are capable of handling themselves. Separately specified destinations must have emergency plans, which explain how to prevent dangerous situations and how to act in case of an emergency and danger. (VnA 787/2003 9 §)

**Protection from poisonous gases**

If there is a leak with poisonous gas in the air causing danger to people, the authorities gives a public warning signal. The alarm system consists of solid alarm system and mobile ones.

For dangerous gases, one protects himself by going inside the house. One should not go to civil defence shelters. During calm conditions and in very weak winds the gases could maintain near the earths surface and sink on low places and house basements. The gas penetrates inside slowly, when the air conditioning is stopped and windows and doors are tightly closed.

In an apartment, the air normally changes once an hour or two. If the gas leak lasts maximum for half an hour and rooms are ventilated properly afterwards people inside get about 5-10 % of the amount from outside portion. To slow down the ventilation on a room, one should close the doors, block the openings of escape valves and by taping, vents holes on doors and windows. If the leaking point is close and a heavy gas cloud crawls to the surface of earth, the upper floors are the best protection places.

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## Operation of gas hazard incidents



On a case of gas hazard people are warned by public warning alarm. The public warning signal is a one-minute-long rising and falling tone or an announcement made by the authorities.

When hearing the public warning signal do following:

- Go inside and stay there.
- Close doors, windows, vents and air conditioning equipments.
- Open the radio and wait for instructions calmly.
- Avoid using the telephone so that the lines doesn't block.
- Do not leave the area without the order from authorities, so that you will not be in danger during your trip.

In case of gas hazard do also following

*If you are inside and smell the gas:*

- Cover your mouth with wet clothing and breathe through it.
- Stay on upper floors until the danger is over.
- Listen to the radio.

*If you are outside and can't get inside:*

- Hurry underneath the gas cloud into the side wind.
- Try to go as high up as possible, for example up on the hill.
- Always cover your mouth with wet clothing, grass, or with a pad of peat or moss and breathe through it.

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## **Explosion hazard**



**On an explosion suddenly terminates with a sudden high power charging. Explosion pressure can destroy the immediate environment and damage the neighborhood badly. The collapse of the structures may continue and cause further collapses later on.**

**The pressure of an explosion causes for people the worst injuries the closer he is the site of the accident. The most vulnerable to the pressure are the ears eardrums.**

**Blocks and fragments flying around by the explosion are very dangerous for unprotected people. The explosion also creates heat, which can cause burns and fires.**

**In addition, of explosives and weapons explosion can also be caused by steams, gases under heavy pressure and fine, dry dust of wood and grain**

**The explosions are possible even at home, because many flammable and ordinary chemicals can burst and cause an explosion when mishandled. Particularly dangerous are easily flammable liquids and liquefied petroleum gas and town gas.**

**In the industry uses many explosive chemicals, which can explode despite precautions. There is always a risk of explosion on boilers, pressure vessels and other equipment.**

**With easily flammable and explosive substances and equipments, one must always follow the instructions and precautions. If you can't use them properly, do not use them. If you detect mishandling of intervene immediately and notify the relevant authorities.**

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## Radiation hazard



The probability of serious radiation hazard in Finland is quite small. Though the risk still exists, one has prepared for it. The radiation situation is continuously observed throughout the country and even in small changes of the situation is informed immediately. Of the radiation situations and procedures will be informed to people at once via television and radio.

In a radiation hazard situation, one should protect himself as in any other environmental accident. If the radiation situation requires rapid protection, people are informed by the public warning alarm. In this case go inside and listen to the television and radio, where procedures are given, for example taking iodine tablets, protection of food and moving around outside of the house. Procedures for radiation hazard situation can be found from the first pages of the telephone catalogue.

The immediate radiation hazard is warned by the public warning alarm signal.

### Do this:

#### Go quickly inside

To protect oneself inside is a quick way and even in worst nuclear power plant accident it's a sufficient protectionist on those areas, which are located over 10-20 kilometers distance from the power plant. The best protection offers basement and the middle parts of the house. Protecting oneself inside is usually necessary for some hours or maximum for one day. From nuclear explosion, one must protect himself to civil defence shelter.

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**Shut the windows and doors; turn off the air conditioning equipments**

Nuclear particles entry inside can be prevented by intensifying gaps of windows and doors with for example by masking tape, by shutting ventilation gaps and by stopping the machine powered air condition. When the fallout cloud has passed through spaces are to ventilate properly according to instructions given by the authorities.

**Follow the instructions given at the radio**

The authority's gives on the radio and television instructions of procedures needed. Urgent information comes on every broadcasting channel and they will interrupt other programs. The citizens are warned by the radio when human lives are in immediate danger or when a property or an environmental threat is possible.

The emergency information is broadcasted via all radio channels at the same time. The emergency information can interrupt ongoing program. The authority's information can also be followed from radiation security pages 867 and rescue service pages 112 and 868 from text-TV.

**Do not make phone calls as the lines can be blocked**

***Iodine tablets are taken only by the authority's recommendation***

Iodine tablets protect the thyroid from radioactive iodine. They are not to be taken on your own, but to wait for the instructions by the authorities. Tablets taken too early or too late will weaken the effect of the tablets.

***Protect food and water***

Other food than preserves must be protected from radioactive dust in plastic bags and water on leak-proof containers. The refrigerator and freeze are good storing places.

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## *Moving outside*

If it's necessary to move outside use a protective mask, towel or kitchen roll in front of your mouth and overalls. As overalls, you can use hooded rain dress and rubber boots. Leave clothes to the vestibule and wash yourself carefully when returning inside. If the fallout areas must left for environments cleaning process, it's first done when the emission cloud has past and the breathing air have been cleaned up from toxic substances.

## *What is radiation?*

Radiation is a part of our natural environment. Radioactive substances and for example X-ray machine are transmitting ionizing radiation. Non-ionizing radiation is for example ultraviolet radiation, visible light, thermal radiation, radio waves and microwaves. Ionizing radiation has energy enough to release electrons from the subject's atom, which is a radiation target, or break the substances molecules. In worst case, damages can cause cancer or other health problems. Ionizing radiation is particle radiation (Alfa or beta radiation) or electromagnetic waves (gamma radiation).

The energy of the non-ionizing radiation is not enough to release electrons from the atoms of the intermediate material. Non-ionizing radiation is electromagnetic waves. The radioactive substances transmitting gamma radiation and X-ray radiation produced by X-ray machine can penetrate materials, like human body or through building walls. Alfa particles can't penetrate human skin, but they can enter the body for example via respiration.

Beta particles on the contrary can penetrate skin. The substances sending Alfa- and beta radiation can be dangerous when contacting with skin or respiration or with food to body.

When preceding in the air or penetrating substances the radiation weakens. Against the effects of radiation, one can protect himself, when leaving far enough from radioactive substance or behind a protection thick enough. Only the radiation can't make its obstacle radioactive. For example visiting X-ray doesn't turn anybody "radiating".

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**On the environment, radioactive substances can spread for example due to a nuclear accident. Substances are diverted with wind and they will fall down like dust or along the rain far from the place of accident. From the radiation caused by the radioactive substances fallen on the environment one protects himself by not to let particles to enter skin or body via respiration or food. When the cloud is passing by one should protect him inside the house.**

### **Take along to civil defence shelter**



- **Flash- light with spare batteries**
- **Medicines needed and First Aid equipments**
- **Bed linens**
- **Reading materials**
- **Games and writing instruments**

#### **Home supply is an integral part of civil defence**

- **composed of conventional foods**
- **the content can variety according to households eating**
- **includes for example vessels for storing water, medicines, iodine tablets and personal necessities**
- **is enough for one week- home supply is used and fulfilled continually**

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## Evacuation

With evacuation means

- transferring population or a part of population from danger threatening the territory or replacing them to a safe area on the command of the authorities
- the population's living conditions and securing vital functions of society in evacuation situation

The Ministry of the Interior, the provincial governments and the rescue service authorities of the rescue area are responsible of planning and enforcing the evacuation of people. In addition, every ministry takes care of planning of evacuation and enforcing tasks, which are minister's responsibilities on their administrative branch.

Evacuation is one way of protecting people. In most cases, the primary option is to protect people on their permanent residence areas by using civil defence shelters when needed.

Evacuation is a concept intended for use in a broad sense. Most basic evacuation can mean evacuation of inhabitants of one house or at widely moving people of several municipals or larger areas away from danger threatening areas and replacing them to a safer area.

One is prepared to evacuate population in accidents, major accidents and in political, economical and military special situations.

Evacuations are planed both for normal and emergency conditions and they are carried out in the extent required by the situation before the threat or after the event. The replacing municipal or municipals of the evacuated population are decided according to the requirements of the case. The evacuated people can be replaced in the neighborhood of the evacuating area or farther depending on the situation.

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## *Operation in emergency situations*

Giving First Aid is often started immediately at accident scene and usually without first aid equipment. In the chain of help each and everyone is equally important and everybody's help is valuable. The first one arriving to the scene makes a situation awareness. When there is more than one helper, the most experienced one leads the operation. The one taking responsibility of leading must quickly make a survey of the accident, it's seriousness and clarify the need of extra help and the need of first aid. It is necessary to take care of own, injured and others on the scene safety.

Do like this:

1. Clarify, what has happened. is it an accident or an attack of illness?
2. Call help from **112**.
3. Prevent possible further accidents, rescue first those ones who are deadly peril and move the injured to safety.
4. Give first aid needed.
5. Protect, calm and follow the patient's condition until further help arrives.

While waiting for professional help, first aid helper should be aware of the injured condition and the changes in his condition and be prepared of giving first aid what the symptoms and injuries require. Observe possible changes in injured condition and rapport these to professionals.

It's important to the helper to create confidence and reliably relationship with the injured. Act calmly, introduce yourself and tell what you are doing, why and that the help is on its way.

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## *When you call 112*



1. Call yourself, if you can
2. Tell what has happened
3. Tell the exact address and municipal
4. Answer the questions given to you
5. Follow the instructions given
6. Close the phone only when permitted

Remember to guide the helpers to the site.

Call again, if the situation changes.

Emergency calls are free and no area codes are needed.

## *Primary First Aid*

Primary first aid is life-saving first aid, which means immediate help which

- rescues human life
- prevents patients or injured condition to become worse
- and take care that the professionals reach the scene

In case of an emergency, there is a question of minutes. The person injured or got a sudden attack always needs help. The situation is serious for example then, when the person is bleeding heavily, doesn't respond when talking, doesn't breathe or there is no sign of blood circulation. The signs of blood circulation are movements, making noises, swallowing and opening the eyes.

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## *How to help an unconscious person*

An unconscious person can choke, when lying on the back.

When you see a person lying on the ground

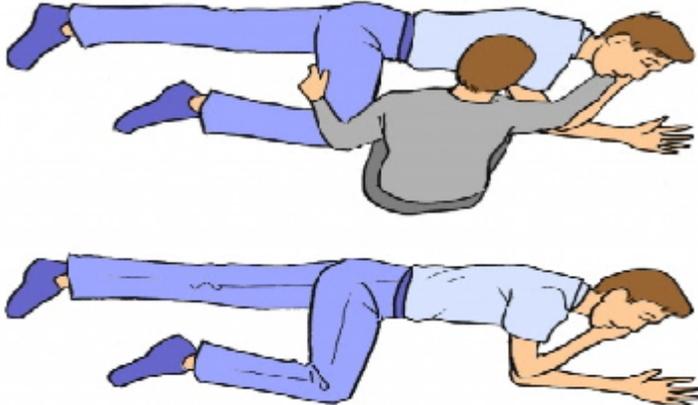
- Clarify first if you can get him awake.
- If he doesn't wake, call **112** and follow the instructions given.
- Check if the patient is breathing.
- If he is breathing, place him in the recovery position to ensure continuous breathing. This way the tongue doesn't block the airway and possible vomit and other secretions will flow out from mouth.

Place an unconscious in the recovery position

- \* Bring the furthest arm from you across the casualty's chest.
- \* Hold the back of his hand against his cheek. Pull up the casualty's far leg, just above the knee.
- \* Bring the furthest arm from you across the casualty's chest.
- \* Grasp the casualty's shoulder and the bent knee and roll him towards you, until he is lying on his side.
- \* Keep head tilted so that airway remains open until you get professional help.



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### *How to resuscitate*

The success of resuscitation determines time, which takes place from elapsing between the initiations of resuscitation. Lifeless man seems dead, breathing is terminated and there is no sign of blood circulation.

- First check whether you can wake the collapsed person up by shaking him and by talking to him. what has happened ?
- If he doesn't wake up, call **112**.
- Open the airways by lifting the chin upwards and tilting the head well back.
- Check if the person's chest is rising. Feel and listen the air stream from the mouth and the nose at the most of 10 seconds.
- If he breathes normally, turn him in the recovery position and ensure continuous breathing until professionals are at the scene.
- If the person does not breathe normally:  
Start chest compressions find the correct place to apply pressure. Place the heel of one hand on the middle of the breastbone and the heel of the other hand on the on top of the first one. Press the breastbone **30** times with your arms straight at a rate of 100 times / minute. Depress the breastbone approximately 4-5 cm.



- **Begin to give mouth-to-mouth ventilation with two blows of air. Close the patient's nose by pinching the nostrils with your thumb and index finger. Place your lips tightly around the patient's mouth and blow air in his lungs **2** times. Check whether your blows make his chest rise.**
- **Continue CPR by alternating **30** compressions and **2** ventilations until the person shows signs of recovery, professional help arrives or you exhaust yourself.**



*Can you wake a lifeless looking person awake? If he doesn't wake up, call **112**.*



*Open the airways by lifting the chin upwards and tilting the head well back... Check if the breathing is normal.*

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**If the patient is breathing place an unconscious in the recovery position to ensure continuous breathing.**

*If the person does not breathe normally:*

**Start chest compressions. Find the correct place to apply pressure. Place the heel of one hand on the middle of the breastbone and the heel of the other hand on the on top of the first one. Press the breastbone **30** times with your arms straight at a rate of 100 times / minute. Depress the breastbone approximately 4-5 cm. Place your lips tightly around the patient's mouth and blow air in his lungs **2** times.**

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## How to resuscitate a child

A child's resuscitation is the same technique as an adult's. However, children's resuscitation must be in balance with child's age and size. As children's lifeless is often connected with airway blocking, you should start the resuscitation by five blows.

- First check whether you can wake the collapsed person up by shaking him and by talking to him. what has happened ?
- If he doesn't wake up, call **112**.
- Open the airways by lifting the chin upwards and tilting the head well back.
- Check if the person's chest is rising. Feel and listen the air stream from the mouth and the nose at the most of 10 seconds.
- If he breathes normally, turn him in the recovery position and ensure continuous breathing until professionals are at the scene.
- If the person does not breathe normally:  
Start chest compressions find the correct place to apply pressure. Place the heel of one hand on the middle of the breastbone and the heel of the other hand on the on top of the first one. Press the breastbone **30** times with your arms straight at a rate of 100 times / minute. Depress the breastbone approximately 4-5 cm. After chest compressions...
- Begin to give mouth-to-mouth ventilation with two blows of air. Close the patient's nose by pinching the nostrils with your thumb and index finger. Place your lips tightly around the patient's mouth and blow air in his lungs **2** times. Check whether your blows make his chest rise.
- Continue CPR by alternating **30** compressions and **2** ventilations until the person shows signs of recovery, professional help arrives or you exhaust yourself.



The blowing and compression must be in balance with the size of child.

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### How to stop bleeding

A large visible bleeding must be stopped quickly.

- Dial **112** if necessary!
- Lay the severely bleeding casualty immediately down.
- Raise the injured limb
- Stop the bleeding by applying direct pressure over the wound with fingers or with hand.

If possible, put some clothing on top of the wound before you start to press it. If the person can do it himself, ask him to do so.

- Apply a pressure bandage over the wound.

If bleeding continues press the wound strongly against the major blood vessels with your hand.

- Follow the patient's condition and give him first aid needed according to situation.

### A Seizure

#### Chest pain

A chest pain must always be taken seriously. A hard, pressing chest pain is normally caused by heart infarct. The pain can radiate to arm, neck, shoulder blade or shoulder. Person is in pain, could be sweating and usually unwell. A diabetic or older people the chest pain is hard to discover.

Do like this

- Call **112**, if the person has been healthy earlier but has chest pain, or if persons 2-3 nitroglycerines doesn't help. Follow the instructions given by Emergency Response Centre.
- Help the person lie down on semi-seated position and calm him
- If he turns unconscious, call again **112** and tell that the situation has changed
- Start the CPR

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## *Malfunction of brain blood circulation*

A blocking or bleeding in brains is emergency situation for a sick person. The preview can be nausea or a heavy headache. Other symptoms can be sudden stroke on other side of the body, the corner of the mouth is hanging and swallowing and talking is difficult. There can be changes in the level of consciousness.

- Call **112**.
- Turn in the recovery position.
- Control breathing and blood circulation.
- If the person becomes lifeless start the CPR.

## *Diabetic's weakness*

Diabetic coma this condition occurs when there is too much sugar and too little insulin in the blood and body cells do not get enough nourishment.

Diabetic coma can be caused by eating too much sugar, by not taking prescribed medications, by stress and by infection. The diabetic coma can be avoided by eating or drinking fast.

Signs and symptoms include drowsiness, confusion, deep and fast breathing, thirst, dehydration, fever, a change in the level of consciousness and a peculiar sweet or fruity-smelling breath.

- Give him sugar containing food or drink, the sugar will infuse to blood circulation and the situation should be normal after 10 minutes.
- If he loses consciousness call 112.
- Turn in the recovery position.
- Monitor the situation until the professional help arrives.

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## *First Aid for Epileptic Seizures*

The epileptic seizure means a passing by brain malfunction. When the seizure as started (the body is stiffen, convulsions) can't be stopped. Convulsions last usually about 1-2 minutes.

- Make sure, that the person doesn't hurt his head.
- Do not stop his movements; do not insert any object in the person's mouth
- After the seizure ends, turn in the recovery position.
- Call **112**, if the seizures continue more than 5 minutes or the seizures renews.

## *Poisoning*

In case of poisoning there is normally an adult concerned, who has consumed too much alcohol or and drugs. The speed or effects of poisoning depend on the quality and amount of poison, and whether the poison is got in the body by mouth, skin or respiration system or as an injection.

- If you doubt the possible poisoning or need instructions call the Poison Information Centre, tel. (09) 471 977 (24 hours) or switchboard (09) 4711.
- In case of emergency calls **112**.
- Turn in the recovery position.
- If the person becomes lifeless start the CPR.

## *Choking on a foreign object blocking the airway*

There is a foreign object in the mouth, for example a piece of food or when children concerned a part of toy. These can block the airway or block it. The person cannot talk, cough, or breathe. (If the person is coughing, they're not choking, so don't perform it.)

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**Do like this if an adult is concerned**

- Bend down the over body and hit for hard 5 times between shoulders.
- If this doesn't help call **112**.
- Make a fist with one hand, and place it thumb-first against your abdomen, just above the belly button.
  - Cover that fist with your other hand, and pull your fist inwards and upwards sharply, quickly and forcefully. Repeat 5 times if necessary. (Heimlich maneuver). Repeat 5 times when needed.
- Continue with 5 hits and 5 pulls.
- If the object still doesn't loose and if the person becomes lifeless start the CPR.

**Do like this if there is a child between 1-8 years old concerned**

- Place the child/infant facedown across your lap, with their upper torso hanging over the side of your knee.
- Using the heel of your hand, thump the child/infant firmly but gently four times between the shoulder blades. Be especially careful with infants.
- If this doesn't help call **112**.
- Heimlich maneuver see before.
- Continue with 5 hits and 5 pulls, when needed.
- If the object still doesn't loose and if the person becomes lifeless start the CPR.

## *First Aid Equipment*

The primary first aid one can start without equipments, but these equipments helps a lot of giving the first aid. Keep the first aid equipment on a place where they are at hands. Study this equipment in advance, so that you are familiar with them when needed. A good equipment of first aid is also for your own safety.

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## **Learn First Aid skills**

To learn first aid skills is a lifetime education. Re educate yourself on first aid courses.

- [www.redcross.fi/opi\\_ensiaputaidot](http://www.redcross.fi/opi_ensiaputaidot)
- [www.redcross.fi/tuotteet](http://www.redcross.fi/tuotteet)

## **Further information :**

\* Helsingin Väestönsuojeluyhdistys

\*[turvaopas.pelastustoimi.fi/suojele-itseasi-ja-muita.html](http://turvaopas.pelastustoimi.fi/suojele-itseasi-ja-muita.html) –

**Text:**

**Jukka-Petri Nieminen**

**Greta and Raimo Nikkilä**

**Source:**

**The Ministry of Interior- suojele itseäsi ja muita**

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*The Civil Defence Association of Helsinki was grounded in the 31<sup>st</sup> of October 1941 to continue its predecessors the Association for the Finnish Gas Defence and the Organization of Finnish Gas Protection actions to promote citizens knowledge and skills for self-defence.*

*This guide is made to give you advice on everyday life to avoid accidents and maintaining risks.*

*Our guide deals :*



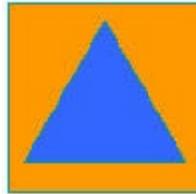
*Radiation*



*Fire Safety*



*First Aid and*



*Civil Defence*



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