

Causes of Accidents



One of the most tragic facts about accidents is that the vast majority of them could be prevented if everyone would become safety-conscious. There are many *preventive* measures that we can follow to reduce the likelihood of becoming a statistic. We'll look at these later in this study.

Both personal and environmental factors contribute to accidents. Some of these are within our control, some are not. We can do little if anything about exposure to what are commonly referred to as "acts of God" such as earthquakes, hurricanes, typhoons, or cyclones. On the other hand there is a lot we can do to reduce the risk of motor-vehicle accidents and accidents which take place in the home or at work.

Little research has been done in the area of personal factors causing accidents, but some factors seem to emerge. Consider 'physical defects' for example. Such problems as uncorrected visual or hearing impairments often contribute to accidents involving motorists and pedestrians. Accidents in the home or at work also are involved.

Fatigue is also a common personal factor in accidents. When you are fatigued, reaction time, movement time, and alertness are seriously affected. It's not surprising that risk of automobile or work-related accidents is clearly related to fatigue level.



Our emotions can also be a factor. It is well known that the likelihood of accident is far greater when someone is emotionally upset. This is true for every kind of accident because it's harder to concentrate on what you are doing. For example, a man who has just had a terrible argument with a co-worker leaves the office in a rage and gets behind the wheel of his car to drive home. He is a prime candidate for an accident. His reactions to driving conditions will be influenced by his emotional "state" at the moment. His resulting *aggressive* behavior may lead to an accident.

In a recent study of some thirty-five accident cases, the victims were divided into two groups. The normally adjusted victims were put into one group, while those who were irresponsible and emotionally unstable were put into a second group. The irresponsible and emotionally unstable accident victims were found to have a 54 percent greater frequency of repeated accidents than did the normally adjusted group.

In a recent study of over a thousand South African bus drivers, it was found that accident rates were closely related to such personality factors as: imbalance, antisocial attitudes, carelessness, immaturity, irresponsibility, aggression, discontent, lack of confidence, anxiety, and low intelligence. Statistics such as these would seem to prove that a person's personality may have a significant effect on his potential for accidents.

Drugs--particularly alcohol--have a direct connection to automobile accidents. Not only do illegal drugs have ill effects on driving proficiency, but also many *prescribed* drugs can bring

about sleepiness, dizziness, and other conditions that seriously interfere with safe driving. You should carefully read and follow the directions for all medication, whether prescribed or 'over the counter.'

One of the more important factors in the cause of accidents is the one about which we can do nothing - and that is age. As you might expect, the highest rate of accidents is among the very elderly. That rate consists primarily of falls. The high rate of accident occurrences for the 15-to-24 age group is due largely to automobile accidents.

Environmental factors are discussed in more detail in the next section. Generally, they include mechanical factors in cars and highway design and maintenance; built-in hazards of the workplace such as extremes of temperature, noise and vibration, radiation exposure, air pollution, and stress; the home environment; and the recreational environment.

Accident prevention can be improved in at least three general areas. One is improving the human element. The second deals with improving the environment, and the third is the interaction between man and his environment.

The most important factor of the three is the human element. This factor could be improved by helping workers to develop attitudes leading to "safety consciousness." Much has been done to improve the environment by way of safer machines, more awareness of safety in the workplace, and safer automobiles and highways. The remaining problem is to improve interaction between man and his environment. For instance, we now have laws requiring both seat belts and shoulder harnesses in every new automobile. There is little question that they are extremely effective in almost all kinds of highway accidents. But how do we get the public to wear these safety devices? Only a small fraction of drivers use seatbelts, even at the risk of being fined. The public must be educated to understand the importance of wearing a seat belt at all times. Their decision could mean life or death. Wearing a seat belt greatly reduces one's chance of becoming a highway fatality.

Explain how each of these factors contributes to accidents.

1. Physical defects

2. Fatigue



3. Emotions

4. Drugs, including alcohol

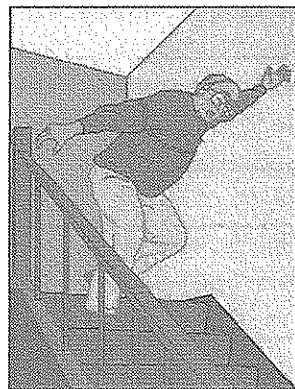
5. Age

6. Environmental factors

Categories of Accidents

For our purposes let's divide accidents into four major groups: accidents in the home, accidents at work, accidents in other public places, and motor vehicle accidents.

Accidents in the Home



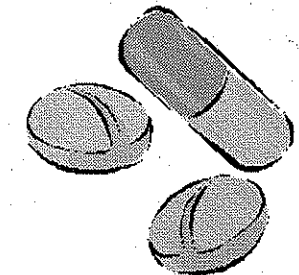
While home is usually thought of as a place of safety and even a refuge from the rest of the world, thousands of deaths occur each year in American homes because of accidents. These deaths are most common among the very young and the very old. Weakness and carelessness or a combination of these factors contribute to the high accident rate for these age groups. Falls are responsible for more than three quarters of the accidental deaths in the home among those over 75 years

of age. Stairs and ladders, scatter rugs, and small objects on the floor lead to many of these dangerous falls.

For children under five years of age, the most hazardous types of accidents are fires, choking on food or some other swallowed object, and suffocating in plastic bags, bedclothes, or other materials.

Although poisoning causes fewer deaths than the above types of accidents, it needs to be stressed because it is highly preventable. Each year more than 500,000 children accidentally swallow poisons. Of this number, 1,600 die; tragically, 300 of them are under 5 years of age.

Nearly half the poisoning deaths are caused by drugs, which toddlers frequently find within reach and swallow. Aspirin, the drug most commonly involved, is responsible for about half the poisonings and 25 percent of the deaths from poisonings among children under 5. The aspirin hazard is more frightening because so many adults do not consider aspirin a drug and are not worried about overdosage. Some parents have even been known to give their children "baby aspirin" and tell them that it is candy. It is only natural that when the child finds it later he is tempted to take as many pills as he can swallow, sometimes with fatal results.



Chemicals, such as cleaning agents or lye are swallowed by children without thought when they are left within reach. Therefore, any substance that is harmful must be kept well out of the reach of small children.

Most home accidents can be prevented by these simple *precautions*:

1. Provide adequate lighting and handrails for stairways. Use firm stepladders, not tippy chairs, for reaching objects beyond your reach.
2. Do not leave objects on stairs or near heavy traffic areas in the house.
3. Do not allow ice and snow to accumulate on porches and stairs.
4. Scatter rugs must be skidproof. Do not have slippery floors or loose objects on floors.
5. Keep all electric cords in good condition. Make sure that electric fans and heaters have proper protection against accidental touching or overturning.
6. Use screens in front of fireplaces.
7. Do not use *flammable* cleaning fluids indoors. Do not use any cleaning fluids without excellent *ventilation*.
8. Keep knives, garden tools, broken glass, boiling water, open fires, matches, chemicals, and all drugs out of the reach of children.
9. Never leave preschool children to play alone.
10. Keep all poisonous substances in clearly marked containers. Be sure they are out of the reach of children and preferably locked away.
11. Keep drugs and medicines in locked cabinets. Throw all leftover medicines and drugs away. Do not throw them into wastebaskets, garbage cans, or trash piles where children may find them. The safest means of disposal is to flush them down the toilet.
12. Be careful of doors that stand open and of blind swinging doors.
13. Provide handholds in bathtubs and showers, and use non-skid mats in tubs when showering.

14. Guard against gas stoves or plates with leaky or rubber tubing.
15. Do not start automobiles in the garage with the doors closed.

In any family, reaching these safety goals depends not only on one individual taking the responsibility for these rules but on all members of the family recognizing and understanding the safety rules and the concept of safety. Such measures as family fire drills will contribute to the protection of the family in case of emergency.

Increasing awareness of safety has led to a gradual decline in the rate of home accidents. As a result, just about as many Americans died in home accidents in 1990 as in 1912, despite the large increase in population. The death rate in home accidents reached a peak of about 30 deaths per 100,000 population in 1936, but in the first half of the decade of the 1980's the death rate had been reduced to just under 15 deaths per 100,000. The credit for this improvement belongs both to individual awareness of the importance of safety and to improved methods of building, safer methods of installing electricity and gas, and improved building codes.

Fill in the blanks.

1. Most people over the age of 75 injured in accidents are involved in _____.

Name the three types of accidents in which very small children (under the age of 5) are involved:

2. _____
3. _____
4. _____
5. The drug responsible for most accidental poisoning deaths among children is _____.

Accidents at Work

More than fourteen thousand people are killed at work each year. Two and a half million more are either temporarily or permanently disabled in work related accidents.

Much has been done by industry to lower these numbers. Many industries have undertaken employee education programs, to teach workers how to deal with hazards in the workplace. Companies have also put safeguards in place to protect workers. Some of these are:

- ✓ Non-skid materials in areas that become slick or wet.
- ✓ Protective coverings for gears or pulleys.
- ✓ Safety switches for machinery that might injure a worker with a cutting edge. (Both hands must be used to press switches, thus keeping hands away from sharp edges.)
- ✓ Guard rails to keep employees from falling.

Project

Work with your parents to make a "safety awareness inspection" of your home. Use the check list below to guide you in safeguarding your home. When your inspection is complete, write a short report (100-200 words) detailing your findings and creating a plan of action to correct any home hazards you may have found.

- Do stairways have adequate lighting and safe handrails?
- Are electric cords in good condition?
- Are more than three electrical devices plugged into a single outlet?
- Is the fireplace (if any) covered by a screen?
- Are cleaning fluids and other poisonous substances stored out of the reach of children?
- Are poisonous substances clearly marked with a warning label?
- Are sharp knives and tools stored out of the reach of children?
- Are gas lines (if any) in good repair?
- Are the bathtubs and showers equipped with handrails and non-skid floors?
- Are storage areas neatly arranged and equipped with adequate lighting?

Write your report on separate paper and turn it in to your supervisor. Have this checklist initialed by your parents.

Parent initials _____

Supervisor initials _____