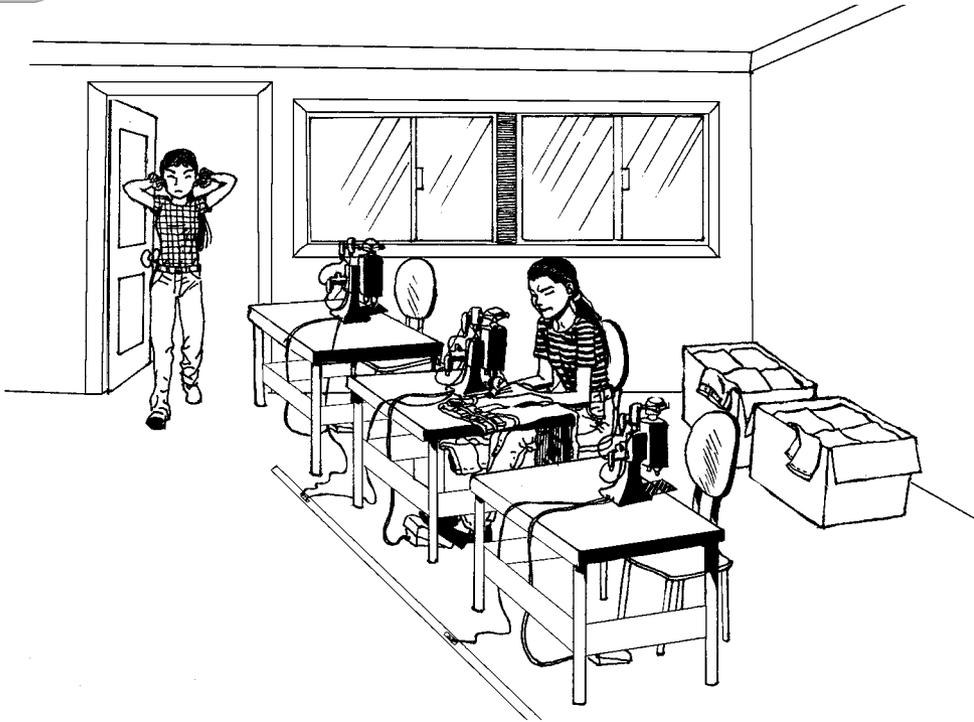


13

Noise



Loud noise can cause many hearing problems. The damage to your hearing depends on how loud the noise is, and how often and for how long you are exposed to it. The way you hear noise may also change. Sounds may become unpleasant or seem louder than they really are.

To protect workers' hearing, employers should:

- test workers' hearing before they start work and regularly during their employment.
- test the noise level at work.
- make changes to reduce noise.
- provide earplugs and earmuffs if the noise level at work can harm workers.

Health problems caused by noise

Temporary hearing loss: You may lose some of your hearing while you are in a noisy place. After you leave, you may not hear well, and you may hear a constant ringing or buzzing noise (called tinnitus). If you stay away from loud noises, these problems should go away. But if you spend a lot of time in very loud places, the problems can get worse or become permanent.

Permanent hearing loss: If you work repeatedly around a lot of loud noise, temporary hearing problems may become permanent. Also, as we grow older, our hearing naturally grows weaker. You may lose your hearing more quickly if you work where there is loud noise every day. An extremely loud noise, such as an explosion, can damage your hearing right away and cause permanent hearing loss.

Other health problems: Loud noise can cause other health problems, including feeling tired, headaches, stress, miscarriage, high blood pressure, heart disease, muscle tension, stomach problems, and dizziness.



Tania's hearing has been damaged by working in a noisy factory. Now it is hard for her to hear her daughter's soft voice or to follow a conversation when there is noise in the background.

Organizing against hearing loss

Batam Island in Indonesia is a big export processing zone. Small and large factories make electronics for some of the world's biggest brand names, from Panasonic to Philips.

But Batam is very different from most places where electronics are made because electronics workers in Batam can join unions. Electronics companies often say that unions hurt production, but Batam shows that when workers are paid decent wages and treated with respect and dignity, everybody wins. And these unions are not “yellow” unions, forced upon workers by the government or the employer. They are real, democratic, worker-led unions.

At first, Batam's unions focused on improving wages and benefits. But soon they realized that health, especially how work affected health, was very important. The FSPMI (Federation of Indonesian Metal Workers, part of the global union federation IndustriALL) is one of the unions in Batam with a strong occupational safety and health division.

The FSPMI started a campaign against noise when workers testing loudspeakers began to complain about hearing problems. The union asked labor and occupational health organizations to teach them how to measure and how to prevent hearing loss. They got an audiometer and learned to use it to measure hearing loss. They began testing workers during union meetings. Many workers showed signs of hearing loss, not just those who tested speakers. A few workers could hear very little.



Wages are important but our health is much more important. If we are sick, we cannot work and cannot earn our salaries.

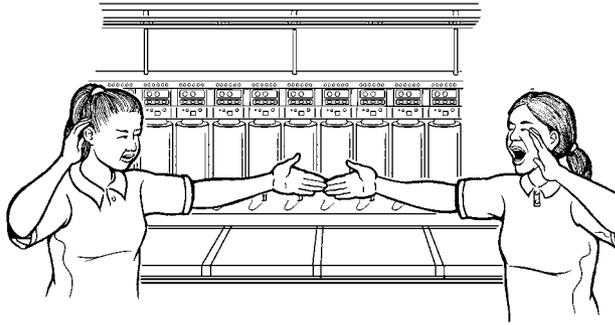
With the audiometry test results in hand, FSPMI went to the factory owners. FSPMI said that the company needed to reduce noise and give workers earmuffs and earplugs. They also demanded that the companies start measuring hearing during the yearly checkups and before workers even started work. And for the workers who already had hearing loss, FSPMI demanded that the companies take responsibility and compensate injured workers.

The companies gave in and began a noise reduction and hearing loss prevention program. This happened due to workers' activism but also because hearing loss is one of the only occupational diseases recognized by the Indonesian government.

How to tell if noise is too loud

Signs that the noise in your workplace is too loud and can damage your hearing include:

- you have to raise your voice to talk to someone 2 arm lengths away.
- you have problems hearing at the end of the workday, but you can hear better after resting away from the factory.
- your ears ring at the end of the workday.



**If you cannot hear someone talking 2 arm lengths away,
the noise is too loud.**

You may not notice you are losing your hearing right away. Most people notice it when they begin to have difficulty hearing conversations clearly. By the time you notice hearing loss, the damage is usually permanent.

The boss should not wait for workers to begin going deaf before reducing noise in the factory. You can prove that the noise at work is dangerous by measuring the sound level and by testing workers' hearing over time.

Measure noise

A sound level meter measures sound on a scale from very soft to very loud. The measure on the scale is called a "decibel." Working in areas with sound levels louder than 90 decibels will harm your hearing. Ask your union or your boss to have someone measure noise in your workplace.

Test workers' hearing

An audiogram is a test that measures the ability to hear sounds that range from low to high and from soft to loud. If a worker's hearing is tested every 6 months, the audiogram can show if her hearing is the same or getting worse. If you use earplugs all the time at work, the tests can show if the earplugs give enough protection. Hearing loss from noise is different than hearing loss from aging, and the test can prove if your hearing problem was caused by work.

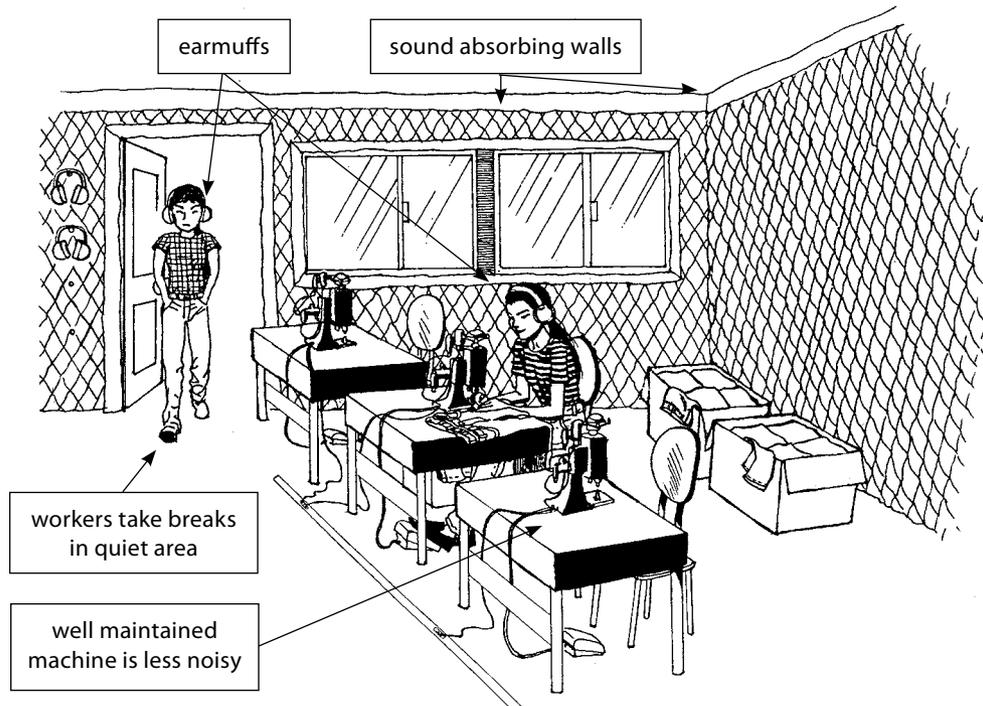
How to make factories quieter

Even if each piece of equipment in a factory is not too loud, when all the equipment and people work at the same time, the noise can be very loud. There are several ways to make a factory less noisy.

Use quieter machines. Ask the boss to replace older machines with newer ones built to be quieter than older models. Sometimes older machines can be rebuilt to make them less noisy.

Put noisy machines in a box. Putting a wall or a closed box around a machine can keep some of the noise inside. Sometimes the box is only put around the noisiest part of a machine. The wall or box should be made of material that absorbs sound, such as cork, rubber, felt, or foam.

Put noisy machines in a soundproof room. While not a great solution, loud machines can be put in a separate soundproof room, so only a few workers are exposed to the noise. These workers should always wear ear protection and take regular breaks outside the room. You can keep the noise from building up inside the room by covering the walls with materials that absorb sound.

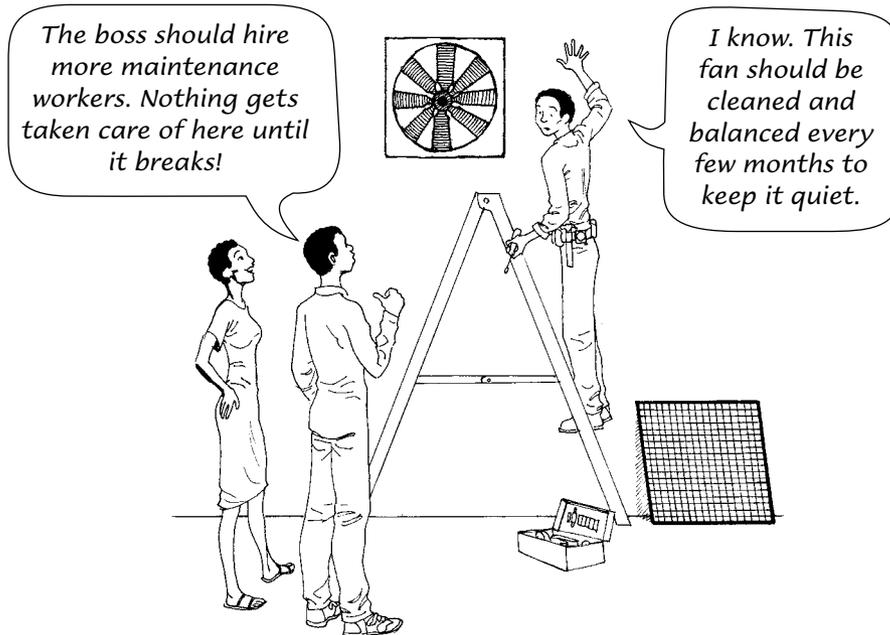


Workers inside a soundproof room need protection from noise.

Absorb sound:

- **on walls, ceilings and floors:** To make the whole factory quieter, cover the ceiling, floor, walls, and work-area dividers with panels or curtains of sound-absorbing material at least 5 centimeters (2 inches) thick.
- **on metal work surfaces and tools:** Rubber-lined carts, bins, tumblers, and rubber-coated work surfaces and tools reduce the sound of metal parts and tools hitting metal surfaces.
- **on air-powered tools:** A muffler on the release valve of an air-powered (pneumatic) tool can reduce noise of air coming out of the tool.

Keep equipment in good repair. A machine may be noisy because it needs oil, adjustment, or a part is wearing out. Regular maintenance and repair can keep machines from getting noisier.



Good maintenance keeps machines quiet.

Turn down the music . Some factory bosses play very loud music to keep workers from talking and to keep them working fast. This often makes noise in a workplace even louder and more dangerous for workers' hearing.



Share the burden. If you cannot make the machines less noisy, workers can rotate jobs so that no one stays in the noisy area all the time. This is not a good, long-term solution to noise problems.

Protect your ears

Workers in noisy areas should wear earmuffs or earplugs. These can help protect workers' hearing while you organize to make the machines and the work area quieter.

Earmuffs give good protection if they gently but firmly touch your head and completely cover your ears. Earmuffs should be cleaned often and replaced when they no longer fit snugly and keep out noise.

Disposable foam earplugs can protect your hearing if they are the right size and properly inserted in your ears. They should be small enough to fit comfortably and expand to fill the hole of the ear (see *Protect your hearing*, on pages 271 to 272).

Hearing protection can prevent you from hearing alarms or approaching vehicles. It is always better to get rid of the noise rather than to block it out.

