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**HEALTH Michael P. Scott** 

All day long our ears are assaulted by sounds—the jangle of telephones, the whine of jet engines, the roar of a busy freeway, and the clatter of a busy office or factory.

To help our ears recuperate from these daily assaults of noise, we need periods of quiet, and our homes should provide that respite.

Unfortunately, rattling furnace motors, whirring blenders, vociferous vacuum cleaners, and unmuffled lawn mowers only add more noise to the din.

There comes a point when even the drip of a faucet makes you want to scream for quiet, But hang on and read on. We'll show you how to make your home quieter so your



HOW TO CUT DOWN HOUSEHOLD NOISE ears can have the rest they need.

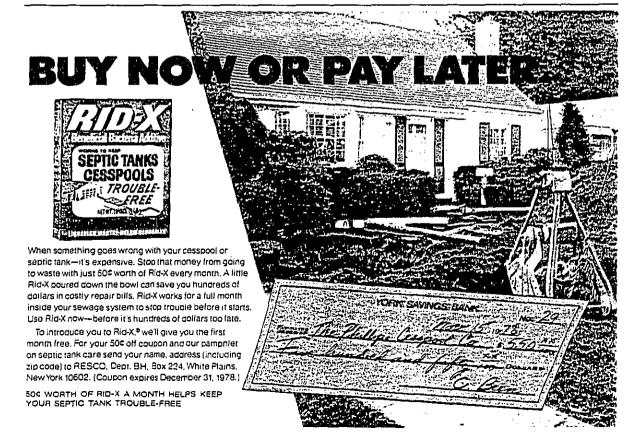
# The effects of noise pollution

There are four major effects of noise pollution:

- Noise causes hearing loss. In fact, according to Dr. Maurice Miller, professor of audiology at New York University, "Noise probably accounts for more hearing loss than all other factors combined. Forty-million people work in an environment noisy enough to damage their hearing."
- Noise interferes with communication. That's no

surprise if you've ever had to yell at the top of your lungs to get the kids to turn down the TV set. Scientists refer to the disruption of communication by noise continued

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continued

# House noise

as "masking." Noise can make it difficult for a teacher to communicate with students, for example. And in a factory, the noise of the machine can muffle a worker's shouts for help.

- Noise disrupts or prevents sleep.
   Noise is a particular problem for millions of Americans who work night shifts. The noises most of us ignore during daytime hours—traffic, household appliances, even conversation—often disturb or prevent the sleep of night workers.
- Unwanted noise is an irritant. The drip of a faucet or the hum of an electric motor amplified through a wall sets nerves on end. An irritating noise has even been known to drive some people to violence.

The body's sympathetic nervous system also reacts to noise. The "fight or flight" reaction is a good example, Normally a loud or sudden noise causes your heart to beat faster, your hreathing rate and blood pressure to increase, your eyes to dilate, and certain hormones to be released into the

blood stream. These reactions prepare you to flee from a dangerous situation or to defend yourself. Usually, if the noise isn't produced by something dangerous, your heart rate, breathing, and blood pressure quickly return to normal. But scientists are investigating the possibility that constant exposure to noise keeps such sympathetic responses at higher than normal levels and by doing so may ultimately contribute to heart disease and high blood pressure.

### Noise levels

Noise is measured in logarithmic units called decibels (dB).

Most conversation takes place at 60dB, and pain can occur above 120dB. Usually, just one exposure to a loud sound won't cause hearing loss. Instead, hearing loss occurs after years of cumulative exposure to sound. For instance, if persons most susceptible to hearing loss are exposed to an average sound level of 70dB five days a week, they might show a small amount of hearing loss at the end of 40 years. A recent study by the Environmental Pro-

tection Agency (EPA) showed that typical homemakers are exposed to weekly sound levels ranging from 69.0 dB to 80.7 dB. The average was 74.3 dB.

One common assault on the ears that definitely can cause hearing loss is loudly amplified rock music, according to Dr. Wesley H. Bradley of the National Institute of Neurological and Communicative Disorders and Stroke (NINCDS). Some schools now require rock bands to restrict their volume to safe limits.

Many states and communities recognize the harmful effects of noise and have passed noise pollution ordinances that restrict the noise from trucks or motorcycles.

The Environmental Protection Agency is studying the noise produced by a number of consumer products and is developing a labeling system that will allow consumers to tell at a glance how much noise products make. Labeling will also be used to rate the effectiveness of sound-deadening products such as acoustic tile and hearing protectors (earplugs and earmuffs). Such continued

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BETTER HOMES AND GARDENS, MAY, 1978

continued

# House noise

regulations, as yet, do little to quiet the home, but you can.

### Quiet your home

Here are some tips (from the National Bureau of Standards, the Environmental Protection Agency, and others) about how you can quiet your house and thus help your hearing and your nerves. (Some of the suggestions will not only make your house quieter,

they'll help you save energy, too.)

- Wear ear protectors when you work with equipment that produces sustained loud sounds (power tools, lawn mowers, chain saws), or with tools that produce a sudden loud sound (shotguns or power nail drivers).
- Use carpeting to reduce the noise of foot traffic and keep sounds from traveling through a ceiling to the floor helow. Carpet also deadens the reverberation of sounds.
- Install sound-absorbing material on ceilings.
- Replace hollow-core doors with solid-core doors and make sure the doors are equipped with rubber or metal jamb and sill gaskets.
- Isolate small appliances from floors, walls, and counter tops. To deaden noise, place a sponge- or solid-rubber pad under a blender, and place pads under and at all contact points of a dishwasher or washing machine.
- Make sure large appliances don't rest against a wall. The wall acts as a sounding board and amplifies the noise from the appliance.
- Apply rubber or cork to cuphoard shelves. Wooden cuphoards are quieter than metal ones.
- Isolate motors connected to ductwork or piping (a garbage disposal or ventilating fan). Rubber gaskets or flexible hoses that separate the motor from the duct or tubing help reduce the amount of noise that travels along the ductwork or piping.



The following sounds, and their approximate dB levels, may vary depending on the source and the distance from the source of sound.

# dB level

### Sound

- 140 shotgun blast, firecrackers
- 130 riveting, air-raid siren
- threshold of pain, some auto horns, rock hand (amplified)
- 110 jet plane flying overhead, thunder
- 100 power mower, woodworking shop, chain saw, motorcycle, snowmobile
- 90 blender, subway
- 80 garbage disposal, dishwasher, window air conditioner, alarm clock
- 75 electric shaver
- 70 electric typewriter, vacuum cieaner, noisy restaurant
- 60 normal conversation, singing birds
- 55 average clothes dryer
- 0 quiet office, refrigerator, floor fan (to 70dB), library
- quiet neighborhood, soft whisper from 5 feet away
- 20 rustling leaves
- 10 normal breathing, faintest sounds an adult can hear

beunitnos





Nearly a century ago, Paul Masson aged his premium wines slowly and patiently at this mountain winery. Nearly a century later, we still do.



continued

# House noise

- Operate stereo and television equipment quietly. If there is a lot of noise in a house, though, soft music may help mask the annoving noise.
- Replace metal garbage cans with plastic ones.
- Use large, slow-running, floor-model fans instead of smaller, faster, and noisier ones.
- Substitute squirrel-cage-type fans for propeller-type fans whenever possible (perhaps you need to replace the fan above your stove, or the furnace or air-conditioner fan). The noise reduction becomes dramatic when you separate the fan from the opening into the room by six or seven feet of fiber glass-lined ductwork.
- Keep small engines in tune. A properly functioning engine runs quieter.
   Keep the muffler on your lawn mower or motorcycle in good condition.
- Wrap pipes with foam-rubber sleeves and isolate them from walls, floors, or joists with pipe clamps or supports. Make sure the pipe is sepa-

rated from the clamp by rubber or fiber glass.

- Install central air conditioning to reduce neighborhood noises during summer months.
- Install storm windows or doubleglazed windows.
- Close the fireplace damper and place a plywood cover in front of the fireplace when it's not in use.
- Make sure that all openings from the inside of the house to the outside are sealed (mail drops, dryer vents, gas and electrical conduits).
- Install a pneumatic door closer to eliminate slamming.
- Break up large, open spaces in a house by using room dividers.
- Don't buy children's toys that produce intensive or explosive sounds; such toys can cause permanent ear damage.
- When you're shopping for a new appliance, use your ears. Ask the salesperson to operate the appliance, if possible, before you buy.

A little forethought on your part may help keep your neighbor's home quiet too (and help to keep peace in the neighborhood).

For instance, if you have window airconditioners, try to install them so they are not opposite a neighbor's bedroom window.

When you use power tools or equipment outdoors, operate them at a reasonable hour. If you must mow the lawn early Saturday morning, remember that the slower the engine setting, the quieter the engine will run.

### If you want more information

For free information about noise including the pamphlet "Noise Around Our Homes," write: Environmental Protection Agency, Noise Office-SLP, Washington, D.C. 20460.

Write for the National Bureau of Standards book: Quieting: A Practical Guide to Noise Control. Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. SD Catalog Number C13.11:119/Stock No. 003-003-01646-2. This 163-page book costs \$5.10 and is an excellent source of information about quieting the home, office, even your automobile.