

Breathe easier, sleep better and maybe even soothe your soul by changing your nighttime environment and creating the ...

## B E D R O O M

What's wrong with this picture? A big brass bed, plush carpeting, freshly painted walls and the rich anticipation of drifting off into dreamland snuggled beneath a cozy comforter and overstuffed pillows. This description probably fits everyone's actual or fantasy bedroom, but underlying the picturesque scene are the nemeses to a good night's sleep and to our overall well-being. In fact, the typical bedroom is under constant assault from mold and dust mites, chemical outgassing and even electromagnetic radiation.

But don't despair. The green building movement, which advocates environmentally sound architecture, construction practices and design, is working to raise public awareness of environmental issues and make available the basic tools for creating healthier homes—bedrooms included. "In the past

## O F Y O U R

25 years, environmental issues around design and construction have come to the forefront, and health issues have come on its coattails," says Graham Davis, a green building consultant in Colorado Springs.

With the mission of enhancing both human and planetary health, German builders are heading up a new science known as *Bau-Biologie*, which translates as "the relationship between buildings and life." *Bau-Biologists* learn to build, design and furnish homes with health-promoting, environmentally sound materials, as well as to measure and mitigate the impact of an exhaustive list of pollutants.

Mary Cordaro, a certified *Bau-Biologist* and environmental consultant in Los Angeles, oversees a team that provides a full range of "green" building services, from on-site inspections for pollutants to feng shui consultations. "We always look for environmental elements that could cause health problems in the bedroom first," says Cordaro. "You spend so much time there, and at night the body is most vulnerable because it's regenerating, detoxing and shedding metabolic waste. You need healthy sleep to respond to the demands of the day."

## D R E A M S

BY VICTORIA MORAN





The goal is to make your bedroom an oasis where you can breathe easily and find solace before facing a new day. Your bed, bedding, floors, walls and personal touches all make a difference. Stick with wood furniture and organic linens.



For some people, notably those with respiratory allergies or multiple chemical sensitivities (MCS), the effects of a toxic, ill-ventilated bedroom are immediate. Symptoms like sneezing, wheezing, itchy eyes, headaches, joint pain, shortness of breath and dizziness can be annoying all day—and keep you up at night. Often, Cordaro says, decreasing environmental irritants works like a panacea for people suffering from these conditions.

Even those of us who don't think we experience any ill effects from our nocturnal

environment often notice that our chronic runny nose or stuffy head vanishes once we make changes in the bedroom, much the same way basically healthy people report feeling energized and healthier when they switch to an organic vegetarian diet. "No one benefits from long-term exposure to an unhealthy environment," Davis stresses.

And you don't have to take out a second mortgage to accomplish this. This second installment of our "Healthy Home" series gives you step-by-step advice for making your

bedroom not just a place to crash at night but one that will enhance your mental and physical health and, if you're really lucky, spice up your love life.

### **In the Air at Night**

We take some 20,000 breaths a day—more than 10,000 of them at night in our bedrooms. Although outdoor air pollution is an obvious problem in many locales, indoor air routinely tests as worse. This is because the Earth works valiantly to keep her atmosphere

clean, but even Mother Nature can't do much about a closed-up bedroom.

Cordaro has a simple recipe for flushing out and diluting a toxic room. Pick a time you'll be home so you can safely crack a window for an entire day. Then open all the interior doors in the house and run an exhaust fan in the kitchen or bathroom on the same floor as the bedroom. The equation is simple: fresh air in, stale air out. Do this every time the seasons change or whenever a room starts to feel stuffy or smell even slightly of mold or mildew.

You can further enhance bedroom air with a high-quality portable air filter. If you purchase one, be sure it is a genuine High Efficiency Particulate Air (HEPA) filter, as these are far more effective at cleaning the air. Choose one with a generous amount of carbon (which absorbs odors and chemicals produced by mold and synthetic materials). Standard compact air cleaners often have so little carbon that they fill up with residue and actually off-load (recirculate) chemicals. Even

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## It Ain't the Heat

The most common type of heating is forced-air gas, which can recirculate dust and other airborne pollutants throughout your home. Using a high-quality, pleated air filter (available from your heating contractor) will cut down on this, as will professional duct cleaning. Forced-air gas heat has a drying effect inside your home, which can actually be a good thing, as it cuts down on mold and dust mites. But it also dries out your skin and nasal passages. A well-regulated steam humidifier that attaches to your furnace and runs off the main air distribution system generally works well to maintain optimum humidity.

If you suffer from sinus problems, consider a humidifier. Keep it scrupulously clean so it doesn't breed bacteria and mold spores. To prevent your room from becoming too damp, buy an inexpensive humidity thermometer

and maintain a humidity level between 35 and 50 percent.

Hot-water heat is the best because it doesn't dry out your air passages the way gas and electric do. If your home doesn't have radiators, a good option is hot water radiant floor heat. "It's generally a little pricier," Davis says. "But it doesn't have to be. Homeowners can install domestic hot water heaters that have the heat running beneath the floor. The cost is comparable to installing a forced-air system."

## A Clean Sweep

Maintaining quality air in a room is much more difficult if you have wall-to-wall carpeting. "It's one of the worst problems in American homes," says Cordaro. "There is the problem with chemical outgassing when carpets are new, as well as particulate pollution—microscopic airborne dust, dirt and mold particles in the air, as well as in the carpet itself and under it," she says. "You can never really clean a carpet—there are too many layers and surfaces that trap mold and bacteria."

If you must have wall-to-wall, at least remove your shoes before entering the bedroom, Cordaro says. This will keep dirt out of the room and out of your respiratory system while you sleep. You might also consider investing in a HEPA vacuum cleaner (see "Resources," p. 70), since conventional vacuums have permeable bags and connections that capture the big stuff but release airborne particles like dander and dust mites back into the environment. If you have a standard vacuum, open the windows when you use it and keep them open for 30 minutes afterward. Running an exhaust fan helps too, as long as you crack a window.

Wood floors are easy to keep clean, and green products work well on them. Generally you can clean hardwood floors by damp-mopping with one cup vinegar per bucket of water. In high-traffic areas, use Annie Berthold-Bond's recipe from *Clean and Green* (Ceres Press, 1990):  $\frac{1}{8}$  cup vegetable oil-based liquid soap (like Dr. Bronner's),  $\frac{1}{4}$  to  $\frac{1}{2}$  cup vinegar or lemon juice, and  $\frac{1}{2}$  cup fragrant herb tea swirled together in 2 gallons of water. This will maintain your floor's shiny finish without leaving a waxy buildup. Use natural, nontoxic cleaning substances in the bedroom, as commercial cleaning products can release volatile

organic compounds (VOCs) into the air, which can be toxic and dangerous to breathe.

You can purchase natural products at natural food stores, or you can use ingredients already in your cupboards. Berthold-Bond recommends dusting with a soft cloth and a mixture of 2 to 3 tablespoons of lemon juice and a few drops of olive oil, and cleaning windows and mirrors with a mixture of  $\frac{1}{2}$  cup vinegar and 1 cup water in a spray bottle.

Other great, cheap, natural "cleansers" are houseplants, fresh air and sunlight. Plants improve our air by absorbing the carbon dioxide we exhale and turning it into oxygen. Many plants—English ivy, spider plants and Boston ferns, for example—have a hearty appetite for airborne pollutants. Similarly, they take in airborne pollutants and act as living filters. And because mold and dust mites don't like the sun's ultraviolet rays or dry, oxygenated air, a good way to keep them at bay is to open the shades and crack windows whenever possible.

A major source of chemical pollution in the bedroom comes from cleaning products you don't even use there, namely the laundry detergents, whiteners, brighteners, bleaches, softeners and dryer sheets that you launder your blankets, sheets and pillowcases in. These fabrics are literally in your face all night long, so if you launder them with commercial detergents, you're subjecting yourself to their synthetic fragrances and the VOCs they release from their petrochemical additives. Manufacturers are not required to list the ingredients in these fragrances, yet some contain chemicals

that are neurotoxins, substances potentially damaging to the human nervous system. So always opt for environmentally friendly, fragrance-free laundry products, available from natural food stores or ecologically oriented distributors (see "Resources," p. 70).

## The Unplugged Bedroom

Electromagnetic fields (EMFs) are electrical frequencies that you can neither see nor smell and that our bodies cannot tolerate. We are bombarded with EMFs throughout the day as we interact with computers, TVs, hair dryers and the countless other electronic gizmos we've come to depend on. Although

There's a simple equation to enhance bedroom air: fresh air in, stale air out.



proof of a direct cause-and-effect relationship between EMF radiation (associated with household wiring and plug-in appliances) and impaired health has not been conclusively established, evidence exists showing marked changes to human cells that have been subjected to it. "It's important to minimize exposure, especially at night when the body attempts to repair itself," says Cordaro. "Evidence suggests that immune suppression and

chemical and hormonal imbalances may result from EMF exposure. Until we know for certain, prudent avoidance is recommended."

To this end, the ideal bedroom should be a haven, free from every nonessential electrical accoutrement. For starters, replace your plug-in clock with a battery-operated one. And instead of just turning off the lights when you go to sleep, unplug as many electric gadgets as you can (including extension cords),

especially those nearest your bed. Recharge your cell phone in another room. And when you shop for your next bed, remember that brass and other metals basically act as antennas and induct/conduct EMFs. So skip the brass in favor of good old wood.

### Lighten Up!

When you're choosing bedroom lighting, less is definitely more. And while natural is always the best, it's not always possible. That's why Davis is a strong supporter of compact fluorescents. "These have come a long way toward duplicating natural light," he says. "Their extremely low wattage saves you money on both bulbs and energy. Nor do they generate heat like incandescent bulbs, which can add to the cooling load in summer."

Highly sensitive people, however, don't like fluorescent lights, no matter how state-of-the-art they are. For them, full-spectrum incandescent bulbs, available at natural food stores, are the way to go. They provide gentle, color-true light and fit into existing fixtures; those who use them say they lift their spirits, much like opening the blinds on a sunny morning.

### Bed, Bedder, Best

The smartest choice for your bed, as well as for all the other furniture in the bedroom, is solid wood with a natural finish like shellac, linseed oil or beeswax. A host of wonderful finishes are available through environmental retailers and catalogs (see "Resources," p. 70). Synthetic finishes, as well as plywood and particle board, outgas chemicals, which means that they release volatile gases into the air we breathe.

When it's time to replace your mattress, look for one made from natural, breathable organic materials. An ideal combination is an organic cotton cover over dust mite-resistant wool batting and 100-percent natural latex. (The trademark "Pure Grown Wool" guarantees that the sheep grazed on pesticide-free pastures and were raised and sheared humanely.) The mattress, like the bed frame, should be free of metal.

If you're not ready to buy a new mattress, consider a topper of pesticide-free wool covered with green cotton (it's untreated, undyed, unbleached) or organic cotton (it has all the qualities of green cotton, plus the bonus of being grown without pesticides). A cover like this is dust mite-resistant and breathable: It doesn't trap moisture, so you'll be warmer in winter and cooler in summer.

## GOOD BEDROOM VIBES

The ancient Chinese practice of feng shui seeks to bring our homes into harmony with natural rhythms, and in doing so makes them more fortuitous backdrops to human life. Feng shui takes into account everything from the structure of your home to the alignment of the doors to the position of your bed to determine how you're affected by the environment. If something is "negative," feng shui can fix it; if something is positive, it seeks to enhance it.

When it comes to bedrooms, application of feng shui principles can help create a sanctuary, both visually and vibrationally. Terah Kathryn Collins, author of *The Western Guide to Feng Shui Room by Room* (Hay House, 1999), offers the following suggestions:

• **SAFETY FIRST:** Check your furniture to make sure you can comfortably navigate around the bed and that soft shapes outnumber sharp corners in your furnishings and accessories.



• **ENHANCE SERENITY:** Reserve the bedroom for the 3 R's—rest, rejuvenation and romance—by placing the computer in another room if possible. Evicting the TV would be a good move too. If you do keep it in the bedroom, invest in an armoire or Shoji screen so you can make it disappear when not in use.

• **APPRECIATE YOUR ART:** Bedroom art should be calming, uplifting or sensual—no disturbing images or frenetic activity. One of Collins' clients found her insomnia eased when she removed the huge painting of a three-ring circus from above her bed.

• **MINIMIZE MIRRORS:** Mirrors are traditional feng shui "cures," expanding and enlivening spaces. In

the bedroom, though, they're too effective. In general, round mirrors are best but curtain them like windows so you can shut them off at night. And never position a mirror so that you can see your own reflection when you're in bed.

• **CHOOSE WARM COLORS:** Think light yellow to deep gold, light pink to deep red, café au lait to chocolate brown. Dominating with black, white, gray and many blue tones drops the perceived temperature of the room, when what you really need is warmth for coziness and heat for libido.

• **MOVE THE BED:** Create a serene view from the bed. Looking into the master bathroom is not a good choice. Ideally, you should be able to see the entrance to the room when you're in bed; you'll feel more secure when you have a clear view of who could be coming. Never place the bed on a wall with windows or beneath ceiling beams. Cluttered space is associated with a cluttered mind, and a cluttered bed—well, you do the math.

• **WHAT'S UNDERNEATH?** In feng shui, every square inch of your house counts—including those under your bed. The standard teaching is to have nothing there, but if you need the storage space, be sure to arrange the items nicely in attractive boxes and that you keep the area scrupulously clean.

• **SIZE MATTERS:** Most people do best in a bedroom that's more human-scale than cathedral-size. If you have a spacious room, keep it simple with nice rugs, plants and perhaps a meditation area. If the room is small, make the bed the main focus.

• **THE EQUAL OPPORTUNITY BEDROOM:** Couples need to be treated as equals. Each partner deserves a nightstand and some decorative elements he or she responds positively to. And if things are sluggish in the romance department, put the relatives' pictures in another room.

• **KID STUFF:** Few adults could sleep well in rooms painted in fire-engine red or Day-Glo yellow with a border of superheroes. It's just as hard for kids to wind down with all that stimulation. Surround them with soft, cozy colors: butter-cream, violet, salmon. You want them to feel embraced, not alarmed.

It's also light enough so that you can toss it over patio furniture or a balcony to refresh it with outdoor air and sunshine.

Mattress and pillow covers that provide a barrier between you and ubiquitous dust mites are a good idea, especially for anyone with allergies to these microscopic organisms that feast on the tiny skin flakes we shed every day. "Dust mites are found just about everywhere humans live," says allergist Mandel Sher, M.D., "especially in the carpeting, on mattresses, pillows, bed covers and upholstered furniture." To combat these miserable creatures, you can get synthetic covers for your bedding (found in most linen departments), or you can buy a patented, 100-percent cotton dust mite barrier.

For easiest breathing, choose a pillow of untreated organic wool with an organic cotton cover. (Wool is dust mite-resistant and doesn't retain moisture.) Your pillow should also address your specific health conditions. If you have neck problems or wake up stiff and aching, for example, you may need a pillow that conforms to the contours of your cervical spine. Many people rest in orthopedic ecstasy on cylindrical pillows stuffed with buckwheat hulls (found at natural food stores and some housewares departments). Ask your chiropractor to recommend one.

Organic cotton sheets and pillowcases can enhance both your personal space and the larger environment as well. "A set of queen sheets weighs about four pounds," says Cordaro, "and it takes one pound of pesticide to grow the cotton for them." Plus, most conventional sheets are treated with an antiwrinkle treatment containing formaldehyde that takes years to wash out completely. But don't worry that you'll spend hours ironing if you switch to organic cotton: As long as you

remove sheets from the dryer promptly, they'll stay smooth and neat.

Whatever bedding you use, wash it once a week in the hottest water possible to kill dust mites. And occasionally leave your bed unmade to air it out.

### Pretty in Paint

It might seem like the perfect way to freshen up your walls, but don't be too quick to paint your bedroom. Unless the existing paint is in poor shape or the color is getting to you, give yourself a clean-air break by living with it. All paint outgasses to some degree, and conventional paint can do so for at least two years, long after the telltale smell has vanished.

If you must paint, take care not to disturb older layers of probably lead-based paint when you prep. (If the room was painted prior to 1978, when lead paint was banned, assume it's in your walls.) Unfortunately, you won't find healthy paints at most hardware stores (see "Resources") and they are more expensive than conventional alternatives. Furthermore, they require more skill to apply, since they don't have the artificial levelers, dryers and hardeners added to make painting foolproof. What you get for your effort, however, is a much shorter and more comfortable outgassing period. The odor that lingers is closer to cake batter than chemicals. In addition, natural paint contains no biocides (toxic chemical preservatives that virtually never go away) and it improves the electrostatic quality of the walls, which means that there is a balance of negative and positive ions more like that found in nature. And a nice bonus for whoever does the cleaning: Dust won't adhere as readily.

### Your Soul Sleeps Here, Too

Once you've made your bedroom a place where you can breathe easily and provide support for the rest of your body, you can think about the subtler dimensions of this place you retreat to for rejuvenation. Kelee Katillac, a self-described reformed interior designer and the author of *House of Belief: Creating Your Personal Style* (Gibbs Smith, 2000), encourages adding decorative touches to express yourself. And since the bedroom is not just a place for rest but also for romance, you can enhance both aspects of life with appropriate flourishes.

"Every creative action leads to a greater belief in ourselves," Katillac says. "And when you see creativity in your home, you have con-



stant affirmative reminders of your potential."

One of Katillac's clients, a single woman who wanted to attract a life partner, used her bedroom as a sort of "treasure map" to clarify her intention. She made an "affirmation chair" with photos of great Hollywood lovers imprinted on the fabric and hand-painted a love poem onto the bedspread. While they haven't worked yet, she is seriously holding out for Mr. Right and nothing less.

Katillac also encourages couples to work together to create a bedroom that represents them both. Every bedroom should have at least one symbolic element representing each person's desires, goals and aspirations. Such symbolic touches subtly influence our thoughts and feelings, nudging us gently in our dreams at night toward the fulfillment of our waking dreams. 🍌

VICTORIA MORAN is the author of *Shelter for the Spirit: How to Create Your Own Haven in a Hectic World* (HarperCollins, 1998).

## RESOURCES

### BEDDING

- Janice Corporation's all-cotton dust mite mattress and pillowcases; (800) JANICES
- Coyuchi's organic cotton sheets and pillowcases; Natura Natural Sleep Solutions' organic, ergonomic mattresses, organic wool and cotton pillows and bedding. All available through Integrated Environmental Systems; (818) 766-1787
- Nirvana Safe Haven's organic cotton/organic wool mattresses and bedding; (800) 968-9355

### NATURAL PAINTS

- Old Fashioned Milk Paint Co.; (978) 448-6336
- Livos' and BioShield's organic plant-based paints, available through the Environmental Home Center; (206) 682-7332
- NonToxiCa's VOC-free, natural paint; (800) 731-5007

### LAUNDRY & CLEANING PRODUCTS

- Enjo's microfiber cleaning cloths and gloves; (714) 259-9055
- Planet Solutions' Total Solution, a plant-based enzymatic concentrate; (888) 313-6183

### HEPA VACUUM CLEANERS

- Nilfisk vacuums, available through the House Doctors; (830) 238-4589

### PORTABLE AIR FILTERS

- The Austin Air and Austin Air, Jr., from the House Doctors; (830) 238-4589

