

## Electric fields, Body Voltage and Stress in the Bedroom©

Your bedroom should be a healing place not a stressful place. Sleep is the time when your body's defenses are lowered, while your body focuses on healing and rejuvenation. Providing your immune system with the appropriate sleeping environment to allow maximum effectiveness in repairing the body keeps you healthier, and helps you fight off illnesses more rapidly.

The stress caused by the Electric Fields produced by electricity supply wiring in most bedrooms is a greater threat to your health, sleeping and healing than are those very visible high voltage transmission lines you see running through some neighborhoods.

You probably wouldn't build or buy a house near high voltage transmission lines because you would have an innate sense of unease about the electromagnetic risk your family might face. What most people do not understand is that the typical wiring in the bedroom walls, ceiling and floor along with lamps, clocks and extension cords create *Electric Fields* 10 to 500 times the ideal level.

Think about it --your walls encircle you with unseen live electric wires that give off electric fields that charge your body every time you lay down to sleep.

The experience of Building Biologists has demonstrated that high body voltage in the bed can causes both long as well as short term healing. Short term problems include difficulty getting to sleep, difficulty remaining asleep for 6 to eight hours, muscle pain, heightened allergy response during the day, increased daytime nervousness, bed wetting in children and lack of refreshing sleep. If you do wake up feeling tired rather than refreshed, your sleeping environment could be at fault.

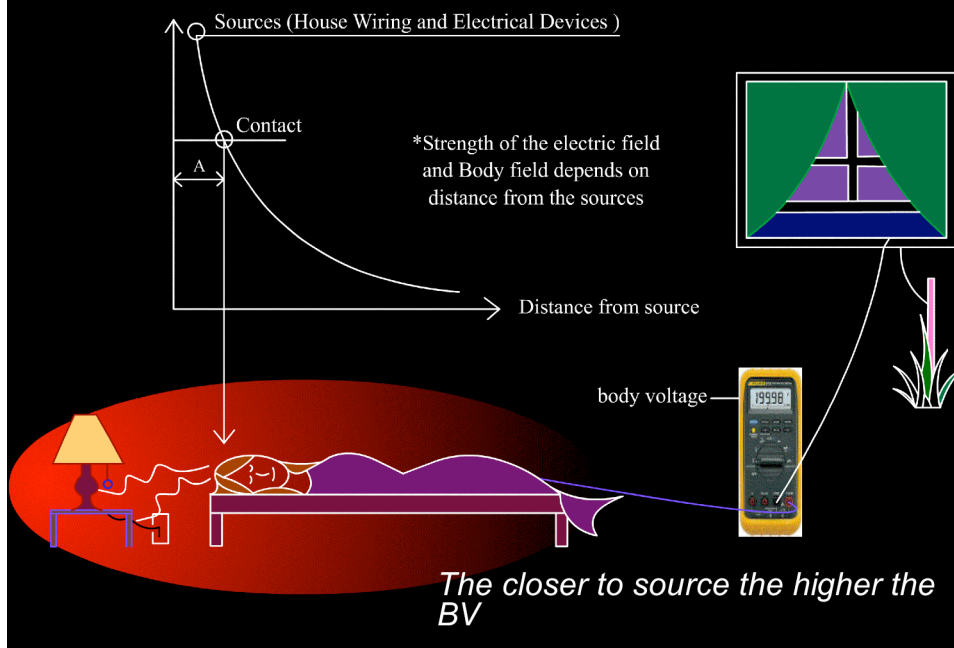
Building Biologists measure *electric field exposure* by using a secondary measurement because it is easier and more reliable. This measurement is the AC voltage induced on a person's body by the electric field. We call this **Body Voltage (BV)**. BV is normally talked about in milliVolts which is 1/1000 of a volt.

### Measurement of Body Voltage

Body voltage is measured using a sensitive digital voltmeter. The correct meter can be purchased from IBE at <http://www.buildingbiology.net/meters.html>. One acceptable meter is the Radio Shack Multimeter 42; the other is the Fluke 83-8.

The *Common* port of the meter is connected to the earth outside via a wire to a small metal rod that is pushed into the earth. The soil outside must be moist. The *Voltage* port of the meter is connected via a short wire to the person lying in bed. The person can just hold the connector at the end of the wire between thumb and forefinger. The meter function selector is set to *AC voltage*. The body voltage is displayed on the meter as shown below.

## Electric fields and body voltage:



Particular attention must be paid to the units of voltage that will be shown to the right of the voltage number displayed on the meter. Depending on the meter and the meter setting used, the units will be Volts (V) or millivolts (mV). Volts can be mentally converted to mV by multiplying by 1000.

Experiment with the lamps, extension cords and other electricity using appliances plugged near the bed. See how each one changes the body voltage. If there is a switch controlled ceiling light, turn the switch on and off. Note that there is little difference in the BV reading when the bedside lamp is turned on and off.

Leave all lamps, etc unplugged and go to the house circuit breaker panel (person remains in bed hooked up to the meter). Turn off all the breakers and note the BV reading (a walkie-talkie would be helpful). Leave all the circuit breakers off except the main breaker. Then turn each individual breaker on one at a time and note the BV reading. By doing this you will be able to determine which circuits create the most BV. These are the circuits that should be left off at night. Turn all the rest of the circuits on and note the BV reading. This is the minimum level achievable without applying other more advanced techniques that we are not able to discuss in this basic article.

### Building Biology Biological Risk Ratings for Sleeping Spaces

Ideal	Weak	Strong	Extreme
Under 10 mV	10 to 100 mV	100 to 1000 mV	Over 1000 mV

**The reduction in body voltage you obtain depends on specific factors in your sleeping area.**