

Digital Cordless Baby Monitors

Over the past five years we, with the help of parents, have measured a variety of baby monitors and the DECT pulsing ones seem to be far more disruptive of the infant's sleep and state of contentment (causing restlessness, irritability and crying). Wired ones and the plug-in ones (that use the electricity wiring to communicate between units) do not seem to cause the same problems. The older type of analogue ones, that are still available from a number of brands, seem OK if kept at least one metre from the cot / bed.

We have had various reports by parents that their babies did not sleep well and cried a lot when they used DECT monitors but were ok when no baby monitor was used. When they then tried a cheaper analogue monitor, the infant then slept as well as they did with no monitor.

All wireless baby monitors should be kept at least 1 metre away from the cot. We would strongly recommend that only low-band (35 to 50 MHz) analogue baby monitors are used. These use analogue frequency modulation (FM, like VHF radio stations) that does not pulse at all. The analogue ones are often identifiable by their low number of channels (typically 2-4).

You can hire or purchase suitable equipment (i.e. the Acoustimeter) from EMFields www.emfields.org to check out the microwave environment from all sources that may surround your baby.

Most baby monitors are now advertised as using DECT phone technology which runs at 1890 MHz or 2400 MHz, which is 1.89 GHz or 2.4 GHz. 2.4 GHz is the microwave oven frequency. These are identifiable by the large number of claimed channels (usually at least 30 and often up to 120), which DECT automatically switches between. These emit sharply pulsing bursts of microwave radiation 100 times every second all the time they are turned on.

With 'talk back' digital baby monitors, where parents can talk back to the baby, both units continuously emit pulsing radiation (on 2 different frequency channels - one for each way), not just when the baby is making a noise or the parent is talking to them.

There are also some camera-based monitors which run at 2.4 GHz. Since these have to transmit video and sound, it is likely that they would have a higher power output. Also, the manufacturers note that these cannot be used in conjunction with computer wireless networks due to interference.

The baby monitor mats that check temperature, heartbeat, breathing, etc, should only be used if you have medical reasons to believe that your baby might be in danger of sudden infant death. When used with a wireless baby alarm they carry high levels of microwave radiation (up to 6 volts per metre) right into the cot and we believe that will not do your baby any good at all.

We do not recommend the use of wireless video baby monitors that allow you to see your baby on your TV or a portable TV monitor. If you really need that level of baby watching, then have a proper wired closed-circuit TV (CCTV) system installed - do not put a TV wireless transmitter in your child's bedroom and irradiate them unnecessarily.

It is important to bear in mind when lighting your baby's room that there is increasingly strong evidence that light-at-night is bad for everybody, especially babies and children (see www.leukaemiaconference.org). Special cells in the back of the eye detect the light, even when you/they are asleep and it stops the pineal gland producing melatonin. Melatonin is a special

chemical that protects the body against damage by "free radicals" that could otherwise cause cancer or other serious developmental damage.

If you, or your child, needs some light at night then it should be very dim and red or orange in colour. The plug-top orange-glow-plugs are ideal. They provide enough light to see around the room when you wake up, or once your eyes have become adjusted to the dim conditions, and they do not stop melatonin from being produced.

For symptoms experienced by people living in microwave radiation from mobile phone masts see our [masts summary page](#).

Please note that your baby/infant in a room with a wireless baby monitor will usually be exposed to stronger signals than $1000 \mu\text{W}/\text{m}^2 = 0.6 \text{ V}/\text{m}$ average, which has been identified in some European studies as increasing the number in people reporting a variety of adverse symptoms. Note that many of the symptoms listed have asthenic and neurological based features that go along with "microwave sickness syndrome" that was first reported in the West by Charlotte Silverman [1]. More references regarding the effects of RF/microwave exposure, especially for pulsing signals on the website are available from our [masts summary page](#).

[1] Silverman C, 1979, *Epidemiologic Approach to the Study of Microwave Effects*, Bull. N.Y. Acad. Sci., 55-11:1166-118