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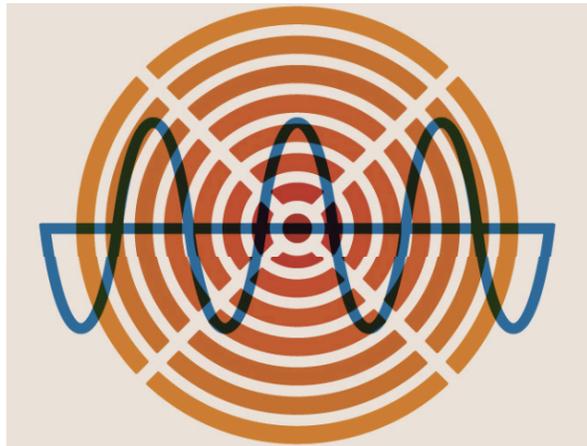
RECEPTION VS. CONCEPTION

Mobile devices and their possible effects on male fertility

By Matthew Wosnitzer, M.D. Tuesday, September 20, 2011



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For men reading this on an iPad, chances are that you aren't considering how your mobile device could affect your fertility. With many young men using cell phones, 3G/4G-enabled tablets or laptops worldwide, the potential for damage from portable devices exists. Testes function optimally at a temperature less than normal body temperature, and it has been well-documented that sperm production decreases when scrotal temperatures are elevated from heat generated by tablet, laptop or cellphone use or storage near them.

Mobile devices also produce electromagnetic frequency radiation. Although the World Health Organization International EMF Project has been studying possible health effects of EMF radiation, results remain controversial. The Federal Communications Commission has established specific absorption rate limits for all cellular devices in the United States. These limits, however, don't account for the amount of time that a mobile device is kept in a specific position, such as in a man's pants pocket during an entire workday. The FCC says, "Currently no scientific evidence establishes a causal link between wireless device use and cancer or other illnesses." Yet multiple studies have identified detrimental effects of EMF radiation from mobile devices on mice and humans. The most researched area is the brain, but recent studies indicate that EMF radiation can decrease male fertility when men carry or use devices near the testes.

Following puberty, sperm form in the testes, are warehoused in the epididymis, and leave the male body in fluid (semen). Sperm cells grow rapidly and may be categorized based on shape, movement and total count. Daily usage time of mobile devices continues to increase, including among teens (as a Kaiser Family Foundation/Stanford University report noted), and this may accentuate effects on sperm. Physicians at the Cleveland Clinic report that electromagnetic waves cause increased stress and changes in DNA that can damage or kill sperm. Cellphone radiation, especially with increased daily usage time and storage in pants pockets, is associated with decreased sperm count, according to researchers in the United States and Europe.

What about Wi-Fi networks? EMF levels from Wi-Fi devices are significantly lower than from mobile phones. The Health Protection Agency in Britain is studying effects. Researchers from Argentina demonstrated that semen samples exposed to Wi-Fi showed increased DNA damage and decreased sperm movement. This is important since sperm DNA quality and movement are critical factors for normal sperm-egg fusion during fertilization.

The ultimate bioeffects from EMF radiation remain under investigation. Larger studies of heat, EMF and Wi-Fi produced by mobile devices are needed. Monitor the guidelines of established international groups such as the WHO. Consider suggestions from the FCC to reduce exposure. Hold the device away from your body on a desk, use hands-free accessories and do not keep the device turned on in a pocket or use for extended periods. Until there's definitive conclusions, consider placing the iPad on a briefcase or pillow to increase the distance from the testes.



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