

# We should reduce exposure to Wi-Fi as much as possible

Input to the Economic Development Committee

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# My Qualifications to address this issue

- I am a physician epidemiologist, specializing in cancer etiology, prevention and screening
- I have performed research on ionizing radiation and cancer, electromagnetic fields and cancer, and other aspects of cancer causation
- I have served on many committees assessing carcinogenicity of various exposures, including Working Groups of the International Agency for Research on Cancer (IARC)
- I was visiting Senior Scientist in the Monographs programme at IARC, September 2011-January 2012 where I reviewed the scientific literature supporting designation of Radiofrequency Fields as a Class 2B possible carcinogen
- I was one of the peer reviewers of the draft Royal Society of Canada Report on Safety Code 6

# The Science on Wi-Fi

- Numerous studies have shown that Radiofrequency fields can damage cells and induce cancer, and potentially cause infertility
- Epidemiology evidence: The Interphone (2011), Hardell (2013,2014) and CERENAT (2014) studies show dose response relationships between mobile phone use and glioma (an aggressive form of brain cancer)
- Some studies also suggest increased risk of parotid gland tumors from prolonged cell phone use.
- Case reports suggest a risk of breast cancer from cell phones kept in bras
- I and others (2015) have concluded that Radiofrequency fields are a probable Human Carcinogen.

# Case Reports of Breast Cancer



First case report, 2009.

Nagourney, MD, PhD

- Invasive multiple primary tumors in 34 year old woman, avid runner, used her cell phone 4 hours a day; stored in her bra for 10 years.

Eight more cases to date

- BRCA1/2 negative; no family history or other risk factors
- Unusual location of multifocal tumors where phones were kept
- Two with metastases

# Interphone – Glioma

Time since start of regular use (years)	Cases	Controls	OR	95% CI
1-1.9	93	159	1.00	
2-4	460	451	1.68	1.16-2.41
5-9	468	491	1.52	1.06-2.22
10+	190	150	2.18	1.43-3.31

# Cerenat – 231 cases, 446 control

Brain cancer	Exposure period	OR	95% CI
Glioma	After 2 years	2.89	1.41-5.93
	After 3 years	3.03	1.47-6.26
	After 5 years	5.30	2.1-13.23
Ipsilateral glioma	All	2.11	0.73-6.08
Meningioma	All	2.57	1.02-6.08

# Conclusions

- Radiofrequency fields are a Probable Human Carcinogen (IARC Category 2A) and are increasingly ubiquitous
- We should not increase the exposure
- Even if risk per individual is low, it is widely distributed and could become a major public health concern
- The Precautionary Principle must be applied. Exposure to Wi-Fi should be reduced as far as possible, especially exposure to children