

Workplace Health & Safety Information Needs

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Presented by

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Canadian Centre for Occupational Health and Safety  Centre canadien d'hygiène et de sécurité au travail

www.ccohs.ca

Source of Data

The Canadian Centre for Occupational Health and Safety (CCOHS) has been answering questions for over 20 years

- ▶ Over 250,000 questions answered
- ▶ Inquiries Service is available FREE to inquirers

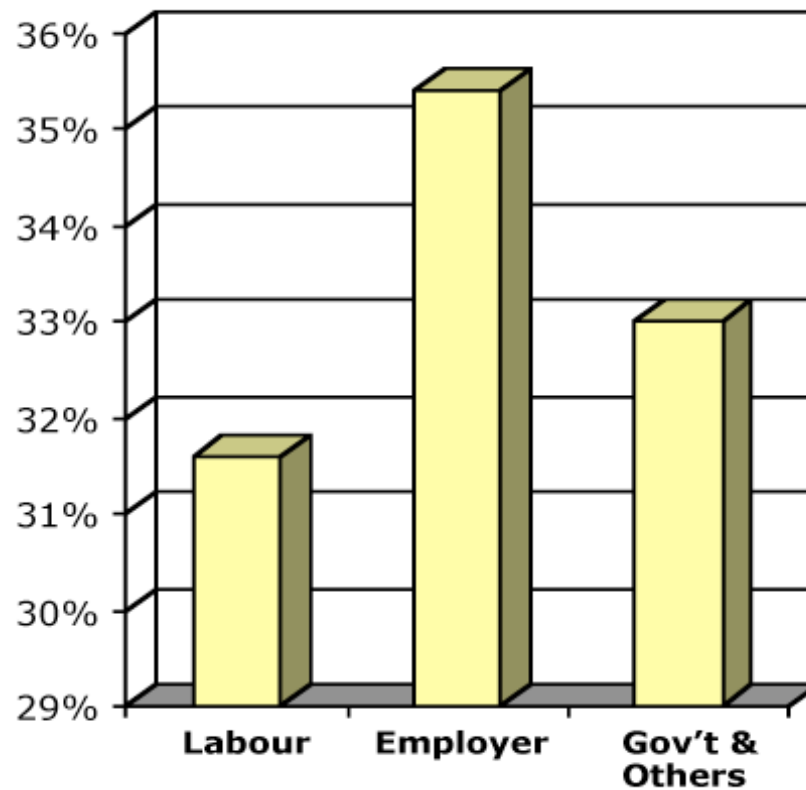


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CCOHS Canadian Centre for Occupational Health and Safety

Meeting Workplace Health & Safety Information Needs
Canadian Association for Research on Work and Health (CARWH)
June 7-10, 2006
St. John's, Newfoundland

Inquirers



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Example 1

Non-ionizing Radiation

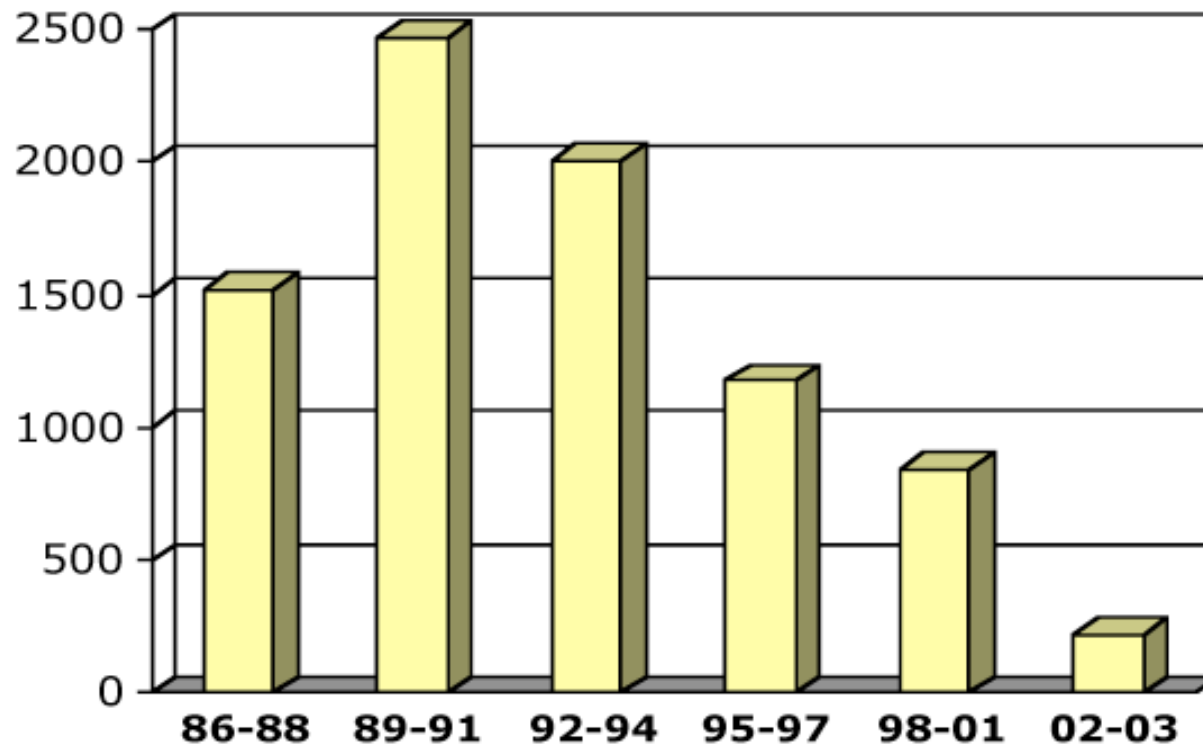


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Number of NIR Inquiries

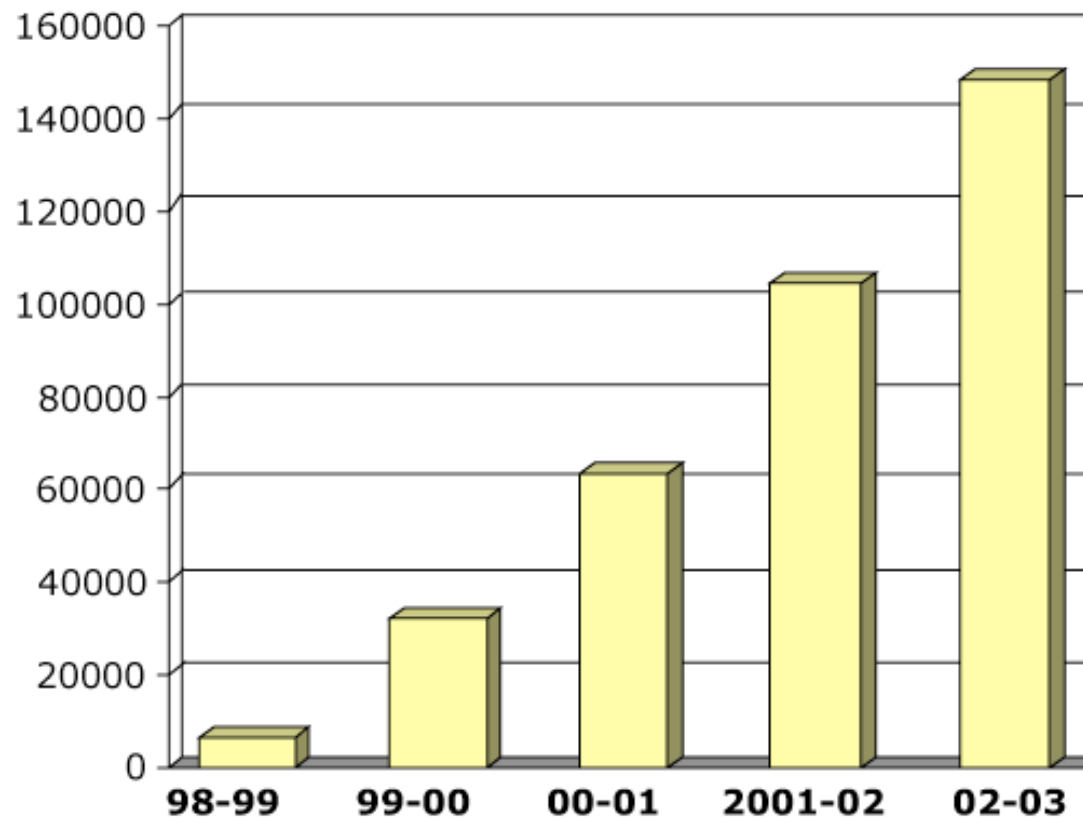


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Web Access: Physical Hazards Information



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Typical Questions

- ▶ I am pregnant. Will my baby be affected by the power line EMF (ELF)?
- ▶ Can cell phones cause cancer?
- ▶ Will laser pointers make me blind?
- ▶ I live near a power line; am I at risk of cancer?
- ▶ Is my breast cancer related to my computer work?



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Triggers of Concern

News Media



“Exposure to electric and magnetic fields around electrical power lines does not lead to an elevated risk of leukemia in children, according to a research study involving Canadian children...”

“The study did note that for children who lived within 100 metres of high-power transmission lines, the risk of leukemia was 81% above average.”

Hamilton Spectator, April 27, 1999



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NIH Publication 99-4493

“The NIEHS concludes that ELF-EMF exposure cannot be recognized as entirely safe because of weak scientific evidence that exposure may pose a leukemia hazard”



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IARC Monographs

(Vol. 80) (19-26 June 2001)

“Overall, extremely low frequency magnetic fields were evaluated as possibly carcinogenic to humans (Group 2B).”

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Basis of EMF Exposure Limits

- ▶ Stimulation of peripheral nerves and muscles
- ▶ Functional changes in the nervous system and other tissues
- ▶ Shocks and burns caused by touching conducting objects
- ▶ Changes in behaviours caused by elevated tissue temperatures

Source: ICNIRP Guidelines



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ICNIRP Guidelines

Frequency Range (f)	Electric Field (E) (V/m)	Magnetic Field (H) (A/m)	Power Density (S) (E;H Fields) (mW/cm ²)
<1 Hz	—	163 x 10 ³	—
1 - 8 Hz	20,000	163 x 10 ³ /f ²	—
8 - 25 Hz	20,000	2.0 x 10 ⁴ /f	—
0.025 - 0.82 kHz	500/f	20/f	—
0.82 - 65 kHz	610	24.4	100; 22,445
0.065 - 1 MHz	610	1.6/f	100; 100/f ²
1 - 10	610/f	1.6/f	100/f ²
10 - 400 MHz	61	0.16	1.0
400 - 2,000 MHz	3f ^{1/2}	0.008f ^{1/2}	f/400
2 - 300 GHz	137	0.36	5.0

1 A/m = 12.5 mG, ACGIH : 1mT=10G at 60 Hz



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-
- ▶ Many occupational exposures are well below the current exposure limits recommended by standard setting organizations.
 - ▶ Most Inquirers worry about the risk of cancer



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Cancers: ELF Research Findings

Floderus, 1993

CLL*

OR = 2.21; > 2 mG

OR = 3.8; > 2.9 mG

Brain Tumors

OR = 1.47 > 2 mG

Theriault, 1994

ANLL*

OR = 2.41; > 31 mG-y

AML*

OR = 2.36; > 2 mG

Feychting 1993

Childhood Leukemia*

RR = 3.8; > 3 mG



Example 2

Indoor Air Quality



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Triggers of Concern

“Why is the government failing to do anything about this?” said Liberal health critic Kevin Taft. “People die from these moulds. This has a Walkerton ring to it. We already have reports of people being sick.”

Wendy-Anne Thompson, MLA fears fatal mould problem., Calgary Herald, 06.27.03, pp B5.



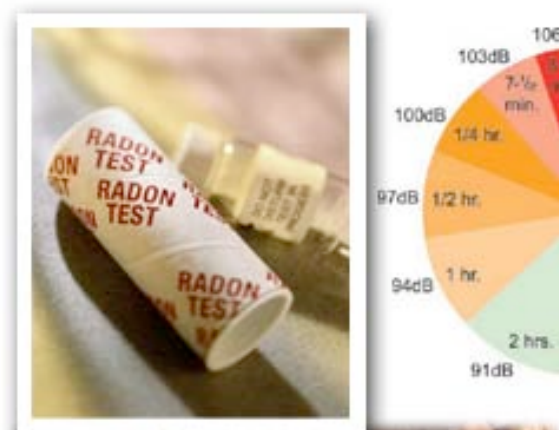
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The Information Challenge

- ▶ Demand for clear “Yes” or “No” answer
- ▶ Often conflicting scientific results
- ▶ No exposure guidelines
- ▶ Anxiety among exposed people
- ▶ Concerned families



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The Scientific Community is Often Divided



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CCOHS Approach in Meeting Information Needs

Empower – explain the current status of scientific knowledge

Encourage – make judgment considering scientific, social and economic factors

Give options – minimize exposure/risk



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Ingredients for Success

Truth
Open Communication
Trust
Respect
Care/Comraderie
Empowerment
Common goals
Team spirit
Continuous improvement



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Conclusion

In spite of conflicting scientific opinion, we must inform people about:

- ▶ Potential/actual hazards
- ▶ How to minimize risk
- ▶ Need standard message phrases?



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Thank You

For further information contact:



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