Research overview

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One thing leads to another….!

Shiftwork, obesity, diabetes & heart disease
20584 participants
(4155 shiftworkers and 16429 nonshiftworkers)

1:2 matching according to age (±2 years), sex, and education

8176 unmatched nonshiftworkers were excluded from the analysis

12408 participants
(4155 shiftworkers and 8253 matched nonshiftworkers)
Shift workers are 58% more likely to be **Physically Active** than non-shift workers.

- 36% of men and 70% of women are physically active among night shift workers.
- 78% more likely for men and 38% more likely for women.

- 142% more likely for night shift workers.

**SITTING TIME AND SHIFT WORK TYPE**

- Non-shiftworker
- Non-shiftworker
- Non-shiftworker
- Day-time shiftworker
- Evening shiftworker
- Night shiftworker

**HOURS**

- 5.8 hours/day 4.4% have diabetes mellitus
- 5.0 hours/day 5.7% have diabetes mellitus

Larger waist circumference and BMI
Risk of disease in shift workers vs. non-shift workers

21% more likely to be obese and have a 63% increased likelihood of CVD

19% more likely to be obese and 27% more likely to have diabetes

69% more likely to have diabetes

Ellen Sweeney, Zhijie Michael Yu, Trevor JB Dummer, Yunsong Cui, Vanessa DeClercq, Cynthia Forbes, Scott A Grandy, Melanie Keats, Louise Parker
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Shiftwork, obesity, diabetes & heart disease

Prostate Cancer and metals in toenails

1MSc TBA
0.25 FTE PDA
Toenails and Prostate Cancer

Is environmental exposure to Cadmium, Arsenic or other metals associated with an increased likelihood of prostate cancer?

• 2015 Rates of prostate cancer (cases per 100,000 men)
  • Newfoundland 133
  • New Brunswick 130
  • Prince Edward Island 126
  • Nova Scotia 95
  • Canada 99
Toenail laboratory analysis

149 Prostate Cancer Cases with toenail samples
56 Prostate Cancer Cases with urine samples
50 with both
Arsenic in toenails by Laser ablation ICP-MS
One thing leads to another….!

Shiftwork, obesity, diabetes & heart disease

Prostate Cancer and metals in toenails

Geology
Metals in toenails
1MSc ?

Semantic Data Integration
1MSc TBA

Computer Science

Physics
Lead XRF in toenails
1BSc

Chemistry
Rate of metal incorporation in toenails
1BSc?