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Occupational exposure to endocrine disrupting chemicals and colorectal cancer risk

Worldwide, colorectal cancer is the third most common cancer. Men are more likely to develop colorectal cancer than women. Different environmental, lifestyle and biologic factors may explain this difference. Also, research is uncovering the role of estrogen, a hormone that promotes the development and maintenance of female characteristics, in preventing colorectal cancer in women.

Less is known of the role of hormones in the development of colorectal cancer in men. Similar to the evidence in women, there is support that the proper functioning of sex hormones may prevent colorectal cancer in men. Endocrine disruptors are chemicals that interfere with the proper functioning of sex hormones. We are exposed to these chemicals in the environment and in diet; however, workers in certain sectors are highly exposed to endocrine disruptors.

In this research, we will examine whether exposure to endocrine disruptors in the workplace increases the risk of colorectal cancer. Our research will be based within participants of the Canadian Partnership for Tomorrow Project. This study included men and women who have shared information on their health, lifestyle, environment and behaviours. Our research will include all men and women who were newly diagnosed with colorectal cancer since 2009. For comparison, we will select a sub-group of people, who have not had cancer at the beginning of the study. The interview asked detailed questions on the longest-held job for all participants. Using this information, we will determine whether exposure to endocrine disruptors at the longest held job was probable or not. We will compare the number of colorectal cancer cases among participants who were probably exposed to endocrine disruptors to those who were never exposed. This study offers a valuable opportunity to examine, in a short time frame and at low cost, whether endocrine disruptors play an important role in colorectal cancer risk.