FIRE CHIEFS' ASSOCIATION OF BC
118 Ravine Drive (Basement), Port Moody, BC V3H 4T2, Phone: 1-604 492-3080,
Email: admin@fcabc.ca

Dear Doctor,

The purpose of this letter is to provide information on *cancer screening and surveillance* for firefighters and emergency responders that may wish to establish a health maintenance program under your care. Recent statistics show that cancer has become the leading cause of death in Canada, with nearly half of all Canadians developing cancer at some point in life, and 30% eventually succumbing to this illness.[1] While firefighters are subject to the same baseline genetic and environmental risk factors as the general public, their fire suppression and overhaul responsibilities place them in even greater peril of acquiring and dying of cancer. A recent study from the University of the Frazer Valley examined injury and death in Canadian firefighters in the 10-year span between 2006 and 2015 and reported that firefighters have an astonishing 86% chance of eventually dying of cancer.[2]

WorkSafeBC, recognizing the growing body of scientific literature linking firefighting to a variety of cancers, has passed the *Cancer Presumption Relief Act* of 2005. This legislation provides for thirteen different cancers as being connected with the occupation of firefighting: lung, breast, colorectal, prostate, leukemia, lymphoma, myeloma, kidney, bladder, ureter, brain, esophageal, and testicular cancer. However, many reports indicate that these are not the only cancers that firefighters are at risk for.[3] Firefighters are repeatedly exposed to complex mixtures of carcinogens that are generated when the synthetic materials in furniture, plastics, chemicals, and metal alloys burn. Even state-of-the-art bunker gear offers insufficient protection, as many firefighters report smelling like smoke for days after a fire. When inhaled, swallowed, or absorbed through the skin, these toxins are widely distributed throughout the body, which places a firefighter at risk for any type of malignancy.[4] For persons at standard risk for cancer, it is generally recommended that screening strategies such as colonoscopy and mammography begin at age fifty. However, because of the carcinogenicity associated with firefighting, some experts have recommended that firefighters assume screening programs in the same manner as someone with a first degree relative with cancer. Firefighters have been encouraged to begin surveillance programs at age forty, or ten years before an affected first degree relative. Physicians might encourage firefighters to assume personal responsibility regarding modifiable risk factors such as smoking, alcohol consumption, diet, and exercise. A periodic health assessment might also include physical examination, CBC, serum chemistries, urinalysis and a bowel investigation such as the fecal immunochemical test. Screening of female firefighters could additionally include mammography and Pap test. Any symptoms in a firefighter such as unexplained cough, weight loss, irritative voiding symptoms or blood in the stools should be taken seriously and followed through to either resolution or definitive diagnosis. I hope that this information will be helpful in guiding your decisions regarding requests by firefighters to establish cancer screening and surveillance programs. Firefighters as a group are highly motivated individuals and it is a pleasure to assist them in strategies that will decrease the burden of cancer in our society.

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Date

Kenneth R. Kunz, M.D., Ph.D.
Medical Oncology / Cancer Pharmacology
Victoria, BC, CANADA V9V 1A4
kenn@netidea.com telephone (250) 995-1701

1 *Canadian Cancer Statistics 2017*
2 *Determinants of Injury and Death in Canadian Firefighters, University of the Fraser Valley, February 2018*
3 *Occup Env Med 2014; 71:388-397*
4 *Firefighters and Cancer: Understanding the Risk Factors, University of the Fraser Valley, June 2015*