

## Pre- and Post-Diagnostic Non-Steroidal Anti-Inflammatory Drug Use and Colorectal Cancer Survival in Seattle Colon Cancer Family Registry

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**Purpose:** Non-steroidal anti-inflammatory drugs (NSAIDs) are widely used in the general population, and regular NSAID use is associated with improved survival among colorectal cancer (CRC) patients. We examined the association of NSAID use prior to, and after, diagnosis in relation to CRC-specific and overall survival. **Methods:** Study subjects were incident, invasive CRC cases from the population-based Seattle Colon Cancer Family Registry. Eligible cases were 20–74 years of age, diagnosed from 1997 to 2008, and identified from the Puget Sound Surveillance, Epidemiology and End Results (SEER) Registry. NSAID use two years prior to the interview date ("pre-diagnosis period") was collected by telephone interview at study enrollment an average of eight months after diagnosis. A follow-up questionnaire was administered approximately five years after the cases' CRC diagnosis ("post-diagnosis period"). Regular NSAID use was defined as having taken aspirin or ibuprofen at least twice per week for more than a month. Follow-up for survival and cause of death was completed through linkage to the National Death Index. Cox proportional hazard regression was used to estimate hazard ratios (HR) and 95% confidence intervals (CI) for associations of pre- and post-diagnostic NSAID use, and initiation, continuation and discontinuation of NSAIDs between pre- and post-diagnostic periods with survival after CRC diagnosis. **Results:** Compared to never users, regular NSAID use after diagnosis was associated with better overall survival (HR = 0.69, 95% CI, 0.54–0.89) and CRC-specific survival (HR = 0.48, 95% CI, 0.29–0.80). Among people who survived five years after diagnosis, both overall and CRC-specific survival were better for patients who initiated NSAID use post-diagnosis compared to never users, with HRs (95% CI) of 0.70 (0.51–0.95) and 0.43 (0.23–0.82), respectively. HR estimates were stronger for CRC-specific survival among those with non-advanced (local and regional) CRC (HR = 0.38, 95% CI, 0.18–0.77). **Conclusion:** Our results suggest that among long-term CRC survivors, regular use of NSAID after CRC diagnosis, including when initiated after diagnosis, is significantly associated with longer CRC-specific survival. This association is more pronounced for patients with non-advanced CRC.

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## Pancreatic Cancer: Associations of Inflammatory Potential of Diet, Cigarette Smoking, and Long-Standing Diabetes

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**Background:** Pancreatic cancer (PanC) is a rapidly lethal malignancy with poorly understood etiology. Epidemiologic

studies show strong associations between PanC and inflammatory conditions or stimuli such as cigarette smoking and diabetes, suggesting that inflammation may play a key role in PanC. Studies of dietary patterns and cancer outcomes also suggest that diet might influence an individual's risk of PanC through modulation of inflammation. We, therefore, examined independent and joint associations between inflammatory potential of diet, cigarette smoking and long-standing type II diabetes (greater than 5 years) in relation to risk of PanC. **Methods:** Data were from a clinic-based, case-control study of rapidly ascertained patients with incident adenocarcinoma of the exocrine pancreas ( $n = 819$ ) evaluated at Mayo Clinic and non-cancer control patients ( $n = 1,769$ ) recruited from Mayo Clinic primary care facilities. Controls were frequency-matched to cases on age, race, and sex. Inflammatory potential of diet was measured using the dietary inflammatory index (DII), calculated from dietary intake assessed via a 144-item food frequency questionnaire and adjusted for energy intake. Logistic regression was used to calculate odds ratios (ORs) and 95% confidence intervals (CIs), adjusting for age, sex, race, body mass index, diabetes, smoking, and education. **Results:** Higher DII scores, reflecting a more pro-inflammatory diet, were associated with increased odds of PanC (OR Quintile5vs1 = 2.80, 95% CI, 2.06–3.79,  $P_{trend} < 0.0001$ ). Increased odds of PanC also were observed among current (OR = 2.55, 95% CI, 1.75–3.72) and former (OR = 1.26, 95% CI, 1.05–1.51) smokers as compared to non-smokers, and among participants with long-standing type II diabetes (OR = 2.96, 95% CI, 1.95–4.51) compared to non-diabetics. Joint associations were observed for the combined effect of having greater than the control median DII score and a) being a current smoker (OR = 4.20, 95% CI, 2.67–6.61), or b) having long-standing type II diabetes (OR = 6.13, 95% CI, 3.47–10.80) as compared to having less than or equal to the control median DII score and being a non-smoker or non-diabetic, respectively. **Conclusion:** These findings suggest that a pro-inflammatory diet may act synergistically with cigarette smoking and diabetes to increase the risk of PanC beyond the risk of any of these factors alone.

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## HPV Infection among Sexual Minority Women: Does it Matter How Sexual Orientation Is Measured?

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**Background:** Sexual minority women are at risk for infection with human papillomavirus (HPV), yet little is known about the prevalence of HPV infection among this population. Further, it is not known how the prevalence of HPV infection might vary based on how sexual orientation is measured and operationalized. **Methods:** We analyzed data from the 2003–2012 National Health and Nutrition Examination Survey (NHANES) among women ages 20–59 ( $n = 7,132$ ). We examined two dimensions of sexual orientation for each woman (sexual identity and sexual behavior), as well as multiple