

CANCER PREVENTION RESEARCH

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- 1061** **High-burden Cancers in Middle-income Countries: A Review of Prevention and Early Detection Strategies Targeting At-risk Populations**
Anna J. Dare, Gregory C. Knapp, Anya Romanoff, Olalekan Olasehinde, Olusola C. Famurewa, Akinwumi O. Komolafe, Samuel Olatoke, Aba Katung, Olusegun I. Alatise, and T. Peter Kingham

RESEARCH ARTICLES

- 1075** **Environmental Enrichment Mitigates Age-Related Metabolic Decline and Lewis Lung Carcinoma Growth in Aged Female Mice**
Nicholas J. Queen, Hong Deng, Wei Huang, Xiaokui Mo, Ryan K. Wilkins, Tao Zhu, Xiaoyu Wu, and Lei Cao
Environmental enrichment (EE) serves as a model of complex physical and social stimulation. This study validates EE as an anticancer intervention paradigm in aged mice and underscores the importance of understanding environmental influences on cancer malignancy in aged populations.

- 1089** **Transcriptome-wide *In Vitro* Effects of Aspirin on Patient-derived Normal Colon Organoids**
Matthew A.M. Devall, David A. Drew, Christopher H. Dampier, Sarah J. Plummer, Stephen Eaton, Jennifer Bryant, Virginia Diez-Obrero, Jiancheng Mo, Dmitriy Kedrin, Dylan C. Zerjav, Oliver Takacs-Nagy, Lucas T. Jennelle, Mourad W. Ali, Ömer H. Yilmaz, Victor Moreno, Steven M. Powell, Andrew T. Chan, Ulrike Peters, and Graham Casey
Numerous studies have highlighted a role for aspirin in colorectal cancer chemoprevention, though the mechanisms driving this association remain unclear. We addressed this by showing that aspirin treatment of normal colon organoids diminished the transitamplifying cell population, inhibited prostaglandin synthesis, and dysregulated expression of novel genes implicated in colon tumorigenesis.

- 1101** **Uptake and Predictors of Opportunistic Salpingectomy for Ovarian Cancer Risk Reduction in the United States**
Pritesh S. Karia, Corinne E. Joshu, and Kala Visvanathan
Opportunistic salpingectomy for ovarian-cancer risk reduction has been rapidly adopted in the U.S., with significant variation in uptake by demographic and clinical factors. Studies examining barriers to opportunistic salpingectomy access and the long-term effectiveness and potential adverse effects of opportunistic salpingectomy are needed.

- 1111** **Predicting Progression of Low-Grade Oral Dysplasia Using Brushing-Based DNA Ploidy and Chromatin Organization Analysis**
Madhurima Datta, Denise M. Laronde, Miriam P. Rosin, Lewei Zhang, Bertrand Chan, and Martial Guillaud
DNA ploidy and chromatin organization of cells collected from oral potentially malignant lesions (OPMLs) can identify lesions at high-risk of progression several years prior. This non-invasive test would enable clinicians to triage high-risk (OPMLs) for closer follow-up while low-risk lesions can undergo less frequent biopsies reducing burden on healthcare resources.

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1119 The Relationship Between Breast Density Change During Menopause and the Risk of Breast Cancer in Korean Women

Danbee Kang, Ji-Yeon Kim, Ji-Young Kim, Han Song Mun, Sook Ja Yoon, Jieun Lee, Gayeon Han, Young-Hyuck Im, Soo-Young Shin, Se Kyung Lee, Jong-Han Yu, Kyung-Hyun Lee, Mincheol Kim, Dohyun Park, Yoon-Ho Choi, Ok Soon Jeong, Jean Hyoung Lee, Se Yong Jekal, Jong Soo Choi, Eliseo Guallar, Yoosoo Chang, Seungho Ryu, Juhee Cho, and Mira Kang

Extremely dense breast density that is maintained persistently from premenopause to postmenopause increases risk of breast cancer two fold in Korean women. Therefore, women having risk factors should receive mammography frequently and if persistently extremely dense breast had been detected, additional modalities of BC screening could be considered.

ABOUT THE COVER

Environmental enrichment (EE) is a housing paradigm wherein laboratory animals encounter varied physical, social, and cognitive stimuli—toys, running wheels, and increased bedding—within a larger-than-standard housing space (pictured on cover). EE is a prime model to understand environmental influences on aging dynamics, as it confers an anti-obesity and anti-cancer phenotype that has been implicated in healthy aging and health span extension. In the study starting on page 1075, Queen and colleagues applied EE to young and middle-aged female mice to determine whether the housing paradigm would be able to mitigate age-related deficiencies in metabolic function and thus alter Lewis lung carcinoma (LLC) growth. Concomitant with improved metabolic function in the aged-EE mouse cohort, subcutaneously-implanted LLC tumor growth was inhibited and tumors exhibited alterations in various markers of apoptosis, proliferation, angiogenesis, inflammation, and malignancy. These results validate EE as an anti-cancer model in aged mice and underscore the importance of understanding environmental influences on cancer development in aged populations.

doi: 10.1158/1940-6207.CAPR-14-12-CVR



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