

## Vitamin D and Cancer: Current Dilemmas/Future Needs

May 7–8, 2007

Lister Hill Auditorium – NIH Campus

### Agenda

- 7:30–8:00 a.m. Registration
- 8:00–8:05 a.m. Welcome: *Cindy Davis, National Cancer Institute*
- 8:05–8:25 a.m. Opening Remarks: *Peter Greenwald, DCP, National Cancer Institute*  
*Robert Croyle, DCCPS, National Cancer Institute*  
*Joseph Fraumeni, DCEG, National Cancer Institute*  
*Paul Coates, Office of Dietary Supplements*
- I. Setting the Stage: How strong is the evidence that vitamin D status is related to cancer risk?**  
*Moderator: Virginia Hartmuller*
- 8:25–8:45 a.m. Setting the stage: What are the critical factors for evaluating sunlight and dietary vitamin D and cancer risk? *Gary Schwartz, Wake Forest University*
- 8:45–8:55 a.m. Discussion
- 8:55–9:15 a.m. What are the strengths/limitations of current epidemiologic studies investigating vitamin D intake/status as a modifier of colon and prostate cancer risk? *Ed Giovannucci, Harvard*
- 9:15–9:25 a.m. Discussion
- 9:25–9:45 a.m. What are the strengths/limitations of current epidemiologic studies of vitamin D intake/status as a modifier of breast cancer risk? *Thomas Rohan, Albert Einstein School of Medicine*
- 9:45–9:55 a.m. Discussion
- 9:55–10:15 a.m. What are the strengths/limitations of current assessment tools for sunlight exposure in populations? *Margaret Tucker, National Cancer Institute*
- 10:15–10:25 a.m. Discussion
- 10:25–10:45 a.m. Break
- 10:45–11:05 a.m. What are the strengths/limitations of current assessment tools for vitamin D status in populations? *Bruce Hollis, Medical University of South Carolina*
- 11:05–11:15 a.m. Discussion
- 11:15–11:30 a.m. What is the dose response relationship between vitamin D status and cancer? *Cedric Garland, University of California, San Diego*
- 11:30–11:35 a.m. Discussion
- 11:35 a.m.–12:05 p.m. **Group Discussion:** How strong is the evidence and what are the current research gaps?  
*Moderator: Arthur Schatzkin*
- 12:05–1:00 p.m. Lunch

## II. How has nutrigenetics advanced our understanding of the relationship between vitamin D and cancer risk?

Moderator: *Michal Freedman*

- 1:00–1:20 p.m. What are the frequency, distribution and functional effects of vitamin D receptor polymorphisms as related to cancer risk? *Nicholas Rukin, University of North Staffordshire*
- 1:20–1:30 p.m. Discussion
- 1:30–1:50 p.m. What is the evidence that genetic polymorphisms in the vitamin D receptor influence cancer risk? Are there ethnic differences in these polymorphisms and are these related to cancer risk? *Martha Slattery, University of Utah*
- 1:50–2:00 p.m. Discussion
- 2:00–2:20 p.m. Can diet and/or sunlight exposure influence the relationship between vitamin D receptor polymorphisms and cancer risk? *Sue Ingles, University of Southern California*
- 2:20–2:30 p.m. Discussion
- 2:30–2:50 p.m. **Group Discussion:** What are the current research gaps?  
Moderator: *Walter Willett, Harvard*
- 2:50–3:10 p.m. Break

## III. What other genes determine the response to vitamin D?

Moderator: *Patricia Hartge*

- 3:10–3:30 p.m. What is the role of extra-renal vitamin D hydroxylase expression and activity in normal and malignant cells? How is this modified by epigenetic mechanisms and dietary factors? *Heide S. Cross, Medical University of Vienna*
- 3:30–3:40 p.m. Discussion
- 3:40–4:00 p.m. What is the role of vitamin D mediated inhibition of prostaglandin metabolism on cancer risk? *David Feldman, Stanford University*
- 4:00–4:10 p.m. Discussion
- 4:10–4:30 p.m. What is the role of the androgen receptor in mediating the effects of vitamin D? *Nancy Weigel, Baylor College of Medicine*
- 4:30–4:40 p.m. Discussion
- 4:40–5:00 p.m. What is the molecular basis of vitamin D receptor and  $\beta$ -catenin cross-regulation? *Stephen Byers, Georgetown University*
- 5:00–5:10 p.m. Discussion
- 5:10–5:30 p.m. **Group Discussion:** What are the current research gaps?  
Moderator: *Hector DeLuca, University of Wisconsin–Madison*
- 5:30 p.m. **Adjourn**

*Tentative Agenda—Day 2*

**IV. What are the important dietary components that modify the effect of Vitamin D?**

*Moderator: Mary Frances Picciano*

- 8:00–8:20 a.m. How do dietary calcium, folate, and soy regulate colonic vitamin D synthesis? *Heide S. Cross, Medical University of Vienna*
- 8:20–8:30 a.m. Discussion
- 8:30–8:50 a.m. What is the molecular mechanism whereby genistein potentiates the growth inhibitory effects of vitamin D? *Aruna Krishnan, Stanford University*
- 8:50–9:00 a.m. Discussion
- 9:00–9:20 a.m. How do body fat and exercise modulate vitamin D status? Do ethnic differences modify this relationship? *Ann Looker, National Center for Health Statistics*
- 9:20–9:30 a.m. Discussion
- 9:30–9:50 a.m. **Group Discussion:** What are the current research gaps?  
*Moderator: Margherita Cantorna, Penn State University*
- 9:50–10:10 a.m. Break

**V. What information have preclinical models provided about the relationship between vitamin D, calcium, and cancer?**

*Moderator: Cindy Davis*

- 10:10–10:30 a.m. What have genomic and proteomic approaches told us about vitamin D and cancer?  
*James Fleet, Purdue University*
- 10:30–10:40 a.m. Discussion
- 10:40–11:00 a.m. What is the role of dietary calcium and vitamin D in vitamin D receptor knockout animals? *JoEllen Welsh, University of Notre Dame*
- 11:00–11:10 a.m. Discussion
- 11:10–11:30 a.m. What are the molecular targets for calcium and vitamin D in mouse genetic models for cancer? *Len Augenlicht, Albert Einstein Cancer Center*
- 11:30–11:40 a.m. Discussion
- 11:40 a.m.–12:00 p.m. **Group Discussion:** What are the current research gaps? *Moderator: Anthony Norman, University of California, Riverside*
- 12:00–1:00 p.m. **Lunch**

**VI. Future Directions: Setting research priorities.**

*Moderator: Peter Greenwald*

1:00–1:45 p.m.      **Group Discussion:** What are the critical issues for future studies investigating vitamin D and cancer?

*Session Moderators*

1:45–2:00 p.m.      Summary Comments: *Cindy Davis and Virginia Hartmuller*

2:00 p.m.            **Adjourn**