Prevention: Setting Priorities in Nutrition and Physical Activity

Karen Collins, MS, RDN, CDN, FAND
Nutrition Advisor
American Institute for Cancer Research
Reducing the Burden of Cancer: Time for a Paradigm Shift

- Treatment
- Early Detection
- Reduce Risk
### Estimated Cases of U.S. Cancers Prevented Yearly By Diet, Activity and Weight Management

<table>
<thead>
<tr>
<th>Cancer Type</th>
<th>%age Prevented</th>
<th>Cases Prevented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast, female</td>
<td>33%</td>
<td>81,398</td>
</tr>
<tr>
<td>Colorectal</td>
<td>50%</td>
<td>67,245</td>
</tr>
<tr>
<td>Endometrial</td>
<td>59%</td>
<td>35,430</td>
</tr>
<tr>
<td>Esophageal</td>
<td>63%</td>
<td>10,653</td>
</tr>
<tr>
<td>Gallbladder</td>
<td>22%</td>
<td>2,512</td>
</tr>
<tr>
<td>Kidney</td>
<td>24%</td>
<td>15,048</td>
</tr>
<tr>
<td>Liver</td>
<td>30%</td>
<td>11,769</td>
</tr>
<tr>
<td>Lung</td>
<td>36%</td>
<td>80,780</td>
</tr>
<tr>
<td>Mouth, Pharyngeal &amp; Laryngeal</td>
<td>63%</td>
<td>26,939</td>
</tr>
<tr>
<td>Ovarian</td>
<td>5%</td>
<td>1,114</td>
</tr>
<tr>
<td>Pancreatic</td>
<td>19%</td>
<td>10,083</td>
</tr>
<tr>
<td>Prostate (adv'd)</td>
<td>11%</td>
<td>2,587</td>
</tr>
<tr>
<td>Stomach</td>
<td>15%</td>
<td>3,956</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>30%</strong></td>
<td><strong>349,500</strong></td>
</tr>
</tbody>
</table>

About 1/3 of U.S. most common cancers preventable through diet, weight & physical activity

AICR/WCRF 2016
Paradigm Shift

- Treatment
- Early Detection
- Reduce Risk
  - Heart Disease
  - Cancer
  - Type 2 Diabetes
Policies and Actions with Biggest Impact
Criteria for Support of AICR Recommendations:

• Judgment unlikely to change over time (convincing)
• At least 2 independent cohorts (convincing)
• At least 2 cohorts or 5 case-controls (probable)
• No unexplained heterogeneity
• Good quality studies that account for error
• Dose response evident
• Plausible evidence from laboratory studies
Resources
Reports & Recommendations

AICR Recommendations for Cancer Prevention
http://www.aicr.org/reduce-your-cancer-risk/recommendations-for-cancer-prevention/

AICR/WCRF Continuous Update Project (Updates to Expert Report)
http://www.aicr.org/continuous-update-project/

Infographics Useful for Messages & Campaigns
http://www.aicr.org/learn-more-about-cancer/infographics/

For Cancer Patients & Cancer Survivors
http://www.aicr.org/patients-survivors/

Cancer Research Update e-newsletter
http://www.aicr.org/cancer-research-update/cancer-research-update.html
Nutrition & Physical Activity to Reduce Cancer Risk:

Recommendations and their Implementation
Recommendation

Be as lean as possible without becoming underweight
Cancers Linked to Obesity

**Convincing:**
- Breast (post-menopause)
- Kidney
- Colorectum
- Endometrium
- Esophagus
- Pancreas
- Liver

**Probable:**
- Gallbladder
- Stomach
- Ovarian
- Advanced Prostate

www.aicr.org
Body Fat: What’s the Cancer Link?

- Insulin & Insulin-related Growth Factors
- Bioavailable Estrogen
- Inflammatory Cytokines
- Leptin
- Adiponectin
Recommendations to Promote a Healthy Weight

• Avoid sugary drinks
• Limit consumption of calorie-dense foods
• Be physically active daily
Calorie Density at Work

Two strategies: each totals 1575 calories

Courtesy: Laboratory for the Study of Human Ingestive Behavior, Penn State
Limit added fats and high-fat foods

Moderate amounts of oils & nuts as part of a healthy diet are not linked to weight gain

Use vegetables and fruits to replace some foods high in calorie density

Often the most powerful step

## Promoting Healthy Weight: Think Big Picture, Broad Options

### Healthful Drinks
- Reducing visibility & availability of sugar-sweetened drinks
- Fresh water widely available

### Food Choices & Portions
- Vegetables & fruits visible, accessible, delicious in schools
- Teaching about healthy foods & how to fix them: schools, public health programs, programs for seniors
- Government and worksite cafeterias & wellness messages
- Wellness teams shaping school cafeterias & fundraisers
Recommendation

Be physically active for at least 30 minutes every day.

(moderate activity such as brisk walking)
Physical Activity to Reduce Cancer Risk

Strongest links:
Colorectal cancer
Breast (post-menopause)
Endometrial

Limited evidence:
Lung
Pre-menopausal breast
Physical Activity: What’s the Cancer Link?

- Easier maintenance of healthy body fat & muscle
- Improves insulin function & healthier levels
- Decreases estrogen levels
- Improves gut function
- Improves immune function
Recommendations

• At least 30 minutes moderate activity every day (such as brisk walking)
• Work up to at least 60 minutes moderate or 30 minutes vigorous activity daily
• Limit sedentary habits such as watching TV
Key Messages

• It’s not just for weight control
• Can be 10- to 15-minute blocks
• Address frequency & compensation
• Limit super-sedentary TV / screen time
• Find ways to add small bits of movement throughout the day
Promoting Physical Activity: Think Big Picture, Broad Options

Recreation
✓ School physical education, recess, after school
✓ Community use of schools
✓ Senior groups
✓ Parks

Transportation
✓ Walk to school
✓ Active commute to work

Occupation
✓ Worksites with active breaks, after-work options
✓ New outlook: Reduce sitting time

Household Chores
✓ Promote home & community gardens
Recommendation

Eat more of a variety of vegetables, fruits, whole grains and legumes such as beans
Key Message:
Eat More & Eat More Variety
Dietary Fiber & Colorectal Cancer Risk

Summary estimate:
10% decrease risk per 10-g increase dietary fiber

AICR/WCRF CUP -- Aune, BMJ 2011
Whole Grains and Legumes
More than Fiber
Recommendations

- At least 5 servings of non-starchy vegetables & fruits daily
- Relatively unprocessed grains &/or legumes with every meal
- Limit refined starchy foods
Recommendation

Limit red meat (beef, pork & lamb) and Avoid processed meat
Red Meat and Colorectal Cancer

Summary Estimate:
17% increased risk per 100 g/day
Red Meat: No more than 18 oz per week

- Limit Beef, Lamb, Pork

Avoid Processed Meat

- Smoked
- Salt-cured
- Nitrite & Nitrate Preservatives
Recommendation

Limit consumption of salty foods and foods processed with salt (sodium)

- Limit processed foods with added salt
- Sodium intake < 2400 mg per day
Recommendation

If consumed at all, limit alcoholic drinks to 2 for men and 1 for women a day.
Cancers Linked to Alcohol

**Convincing:**
- colorectal (men),
- breast (pre- and post-menopausal)
- mouth, larynx, pharynx, esophagus

**Probable:**
- colorectal (women),
- liver
- stomach
Accessibility
Affordability
Acceptability
The New American Plate

\( \frac{2}{3} \) (or more) vegetables, fruits, whole grains, and beans

\( \frac{1}{3} \) (or less) animal protein
Important Message:
It’s Not All-or-Nothing

Stage 1: The Old American Plate
Stage 2: A Transitional Plate
Stage 3: The New American Plate
Stage 4: Another Option
Reducing the Barriers

Promoting Healthful Food Choices: Thinking Big Picture, Broad Options
Barrier: Perception of High Cost

- Reduce high-cost, low-nutrient choices: soft drinks, “snack foods”
- Less meat, more vegetables & beans
- Fewer processed convenience foods
- Look beyond “healthy” labels
- Reduce over-buying
Barrier: Perception of Time Demand Perception of Difficulty

• Simple additions:
  - vegetables / more vegetables
• Substitutions:
  - whole grains for refined
  - poultry, seafood or beans for red meat
• Skills can be taught:
  - flexible meal planning
  - grocery shopping for meals
  - basic cooking skills – not just reading package labels
Barrier: Perception of Lack of Flavor

- Cooking methods: stir-fry, steam, roast, grill
- Herbs, spices, garlic, juices, citrus rind, ginger, vinegars
- Small additions: dried fruits, nuts, grated cheese
Prevention: About 1/3 of Our Most Common Cancers

Reducing Cancer Risk
AICR’s New American Plate
http://www.aicr.org/new-american-plate/

AICR Brochures & Other Publications (free to download; some in Spanish)
http://www.aicr.org/publications/brochures/

AICR Healthy Recipes
http://www.aicr.org/healthyrecipes/

AICR Blog (great source for insights on studies in the news)
http://blog.aicr.org/
For further information

Karen Collins, MS, RDN, CDN, FAND
Nutrition Advisor
American Institute for Cancer Research

k.collins@aicr.org
@aicrtweets
/AmericanInstituteforCancerResearch
AICRblog

www.aicr.org