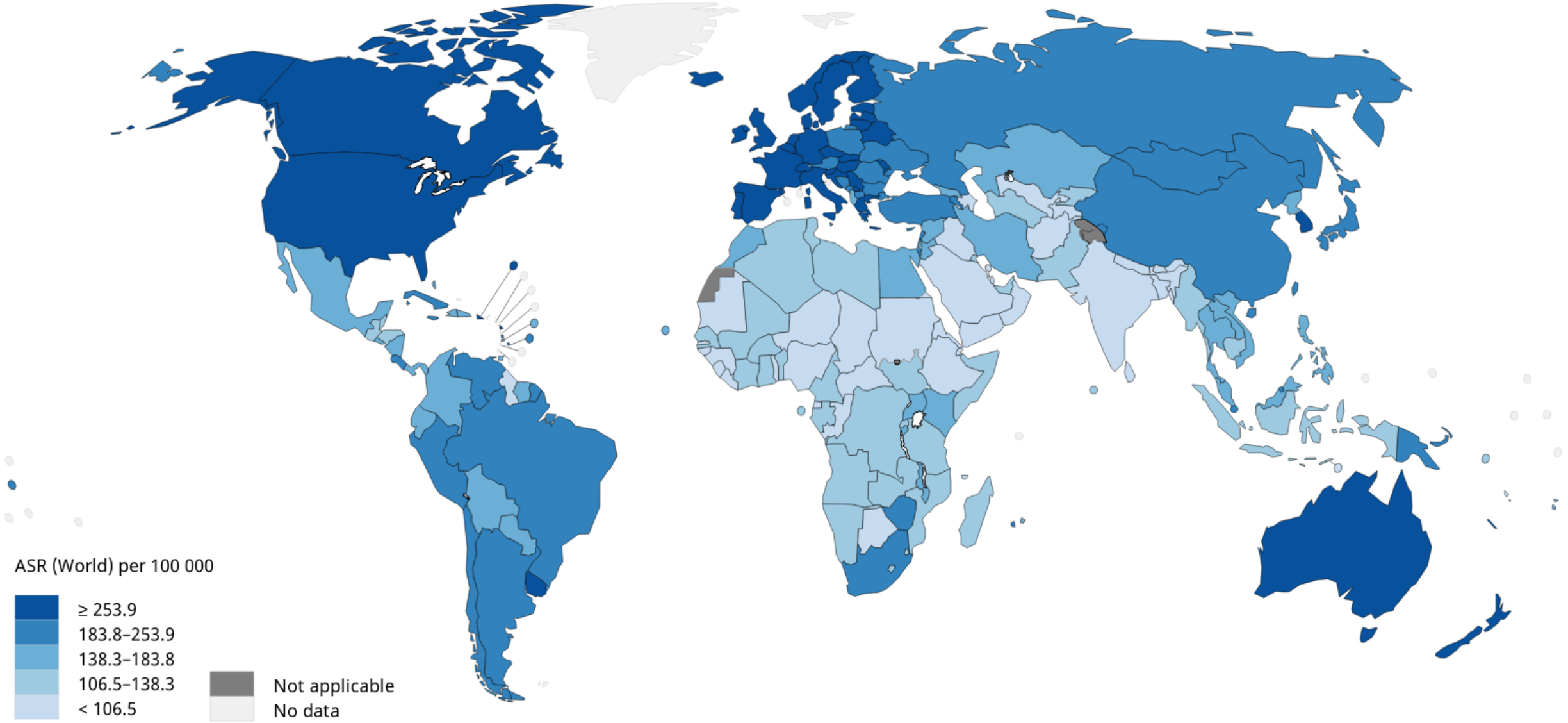
Temadag om kræft
1. november 2022

KOST, LIVSSTIL OG KRÆFT
SANDHEDER OG MYTER

Anne Tjønneland
Gruppeleder/professor
Center for Kræftforskning, Kræftens Bekæmpelse
Institut for Folkesundhed, Københavns Universitet

Estimated age-standardized incidence rates (World) in 2018, all cancers, both sexes, all ages



Data source: GLOBOCAN 2018
Graph production: IARC (http://gco.iarc.fr/today)
World Health Organization

Fordeling af kræftformer

Middel- og lavindkomst lande

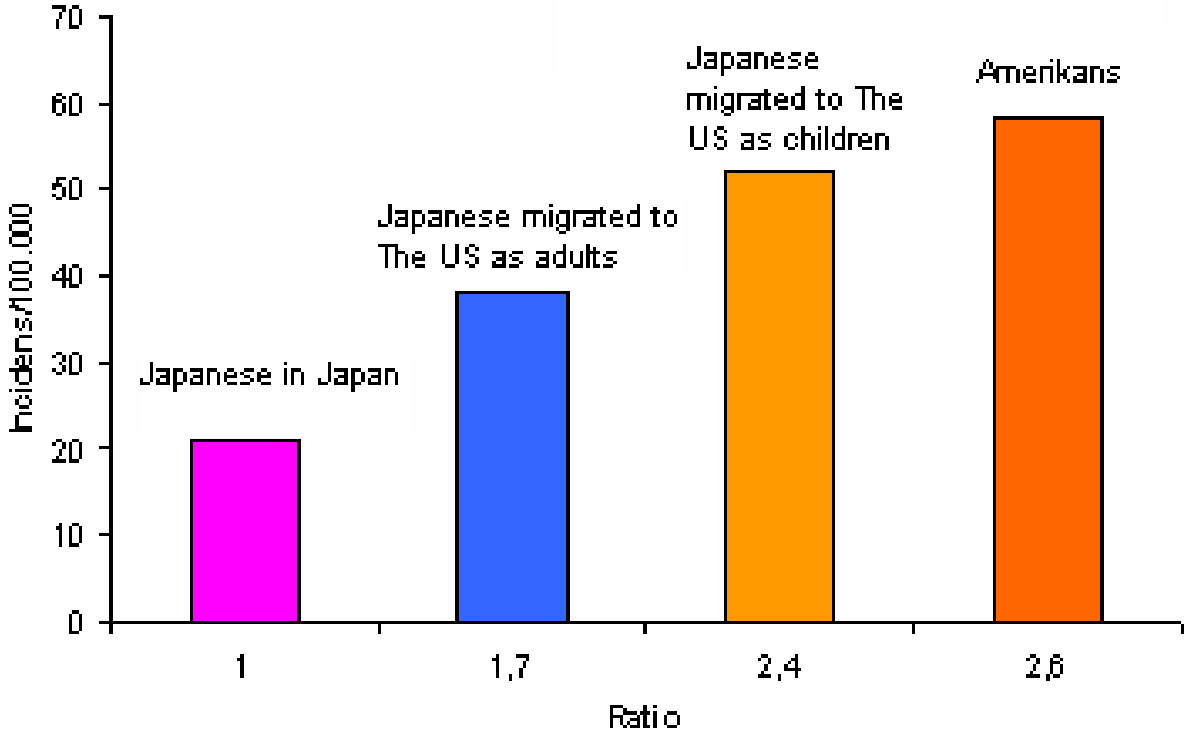
- Kræft i spiserør
- Mavekræft
- Leverkræft
- Livmoderhalskræft

Høj-indkomst lande

- Tyk og endetarmskræft
- Æggestokkræft
- Livmoderkræft
- Prostatakræft
- Brystkræft

Brystkræft – Japanere, japanske immigranter og amerikanere

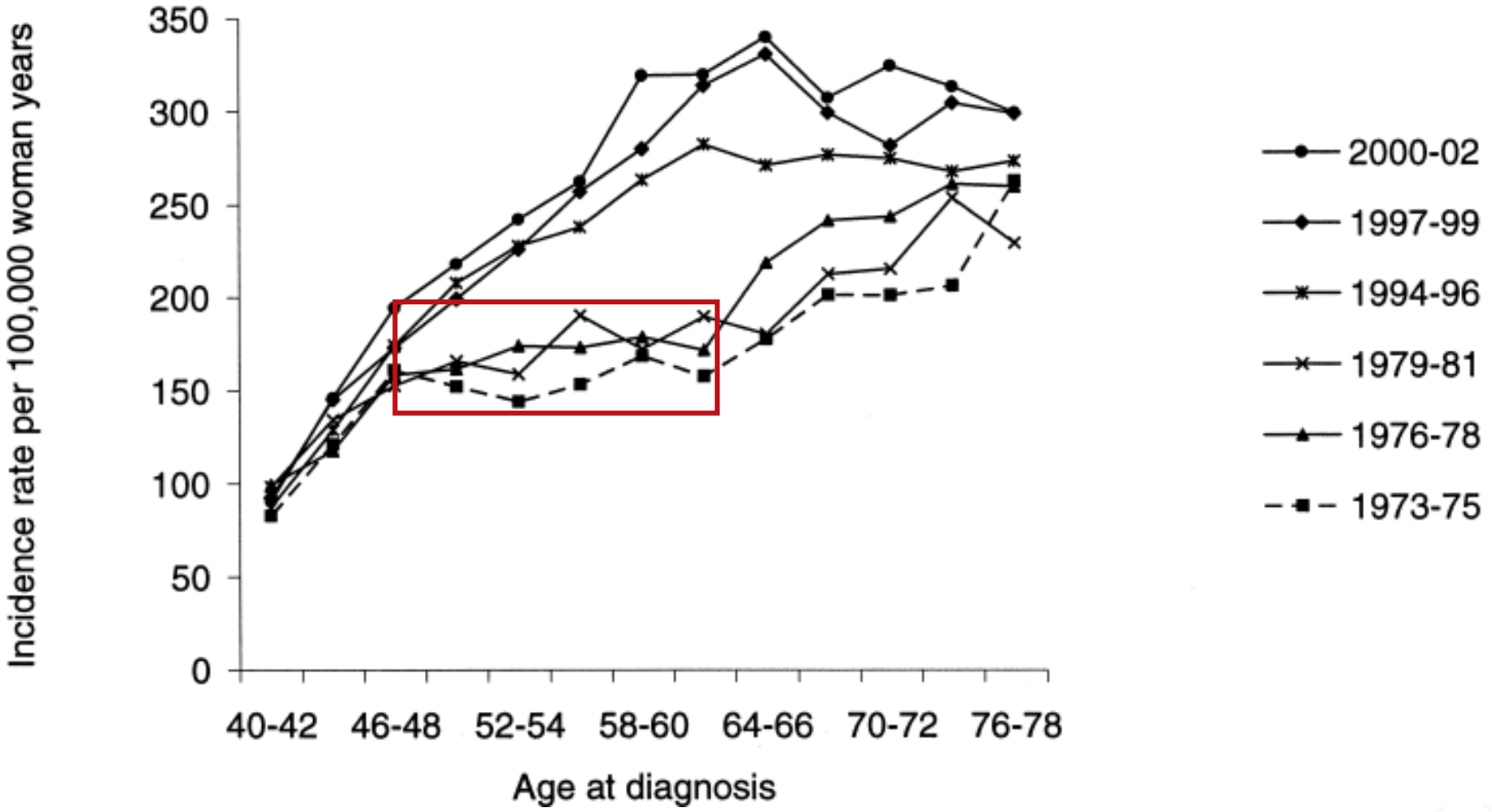
Migrationsstudie



Kilde: Shimizu H, Ross RK, Bernstein L, Yatani R, Henderson BE, Mack TM. 1991. Cancers of the prostate and breast among Japanese and white immigrants in Los Angeles County. Br J Cancer.63(6):963-6.

Brystkræfttilfælde – udvikling over tid

Aldersspecifik incidensrate for første primære brystkræft hos danske kvinder mellem 40 og 78 år. Ikke screenede (1973-2002).



Fuglede N et al. (2006): Int J Cancer 118:2366-2369

Cancer attributable to risk factors, 2010–2019

GBD 2019, Lancet 2022, 400:563-591

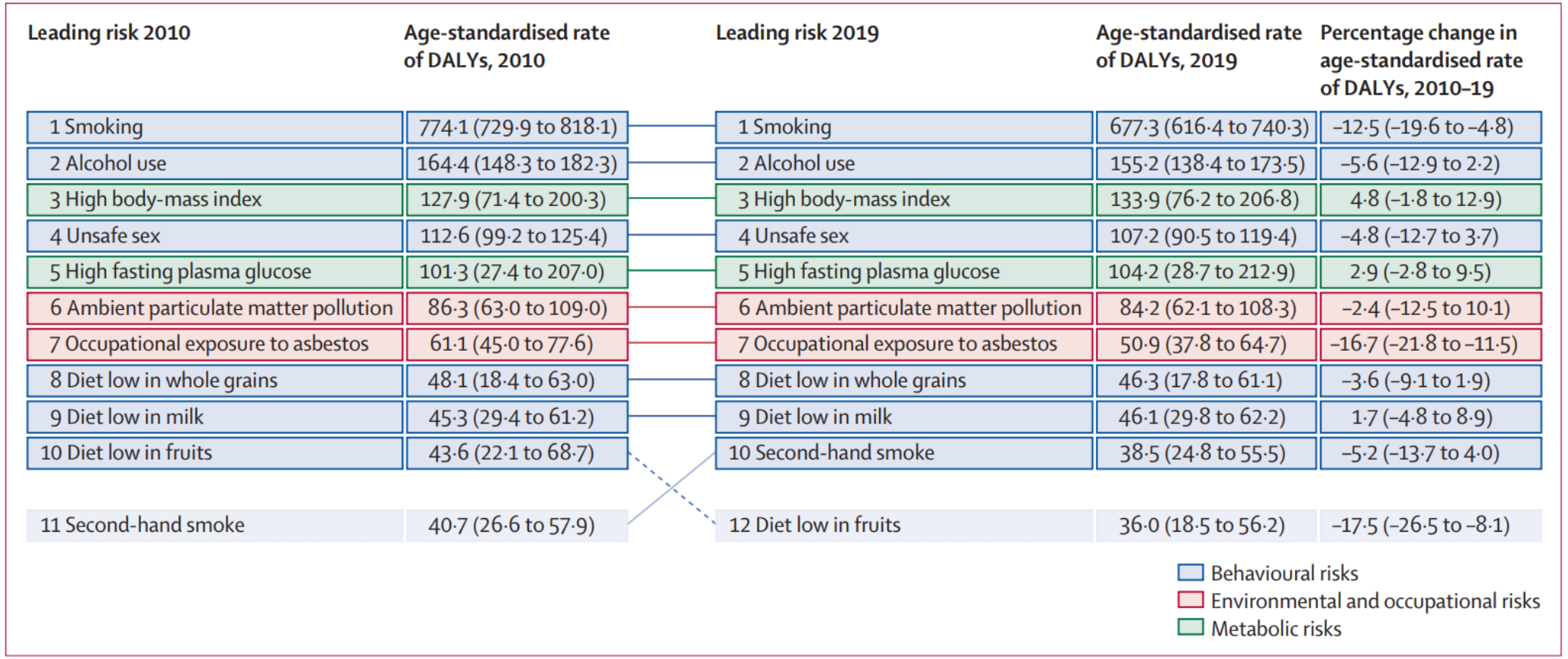
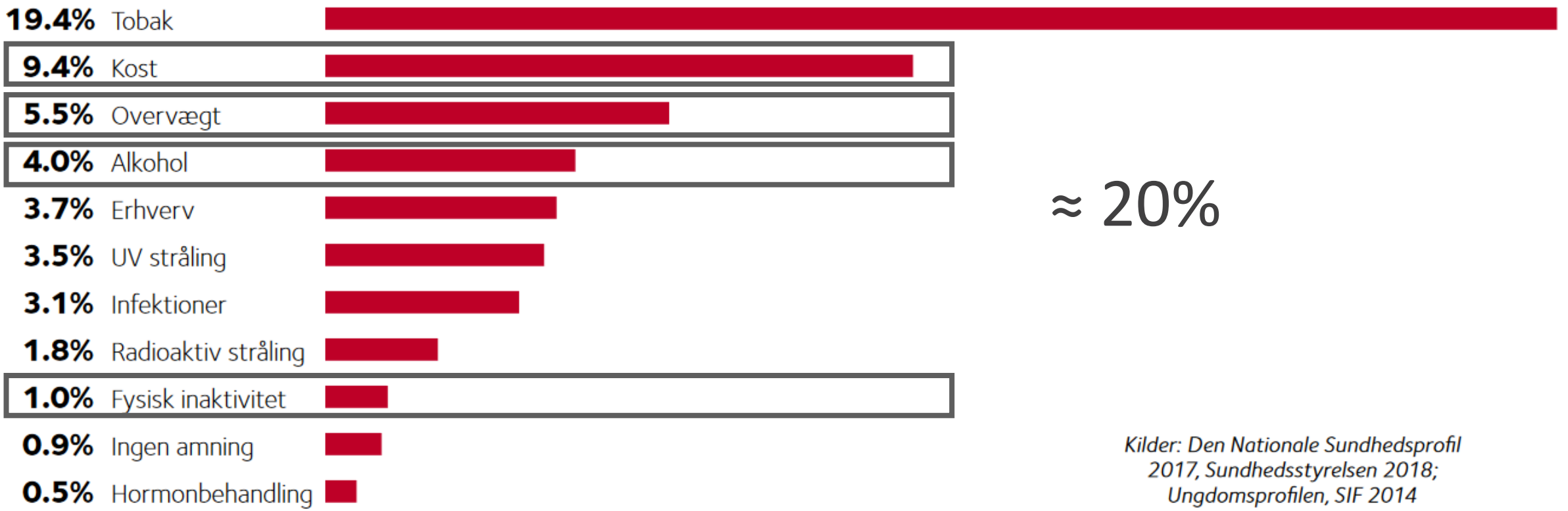


Figure 6: **Leading risk factors at the most detailed level for risk-attributable cancer age-standardised DALY rates globally, both sexes combined, 2010–19**

Årsager til kræft

Årsager til kræft

Tobak er den risikofaktor, som er skyld i flest kræfttilfælde og -dødsfald.



≈ 20%

Kilder: Den Nationale Sundhedsprofil 2017, Sundhedsstyrelsen 2018; Ungdomsprofilen, SIF 2014

Indhold

- **Del 1 – Hvad ved vi?**
  - Overvægt og fedme
  - Alkohol
  - Fuldkorn
  - Frugt og grønt
  - Rødt og forarbejdet kød
  - Hvad ved vi?
- **Del 2 – Myter**
  - Har vi brug for kosttilskud?
  - Giver mælk kræft?
  - Er kaffe usundt?

1. DEL

HVAD VED VI OM KOST OG KRÆFT?

Kost og kræft – mødet med patienten

Udgangspunktet er afgørende!!!

Udgangspunktet er afgørende!!!

1. Den ernæringstruede patient
    - Synke-/fordøjelsesbesvær
    - Kvalme
    - Kritisk vægttab

    → Diætist

2. Hvordan lever jeg så sundt som muligt?

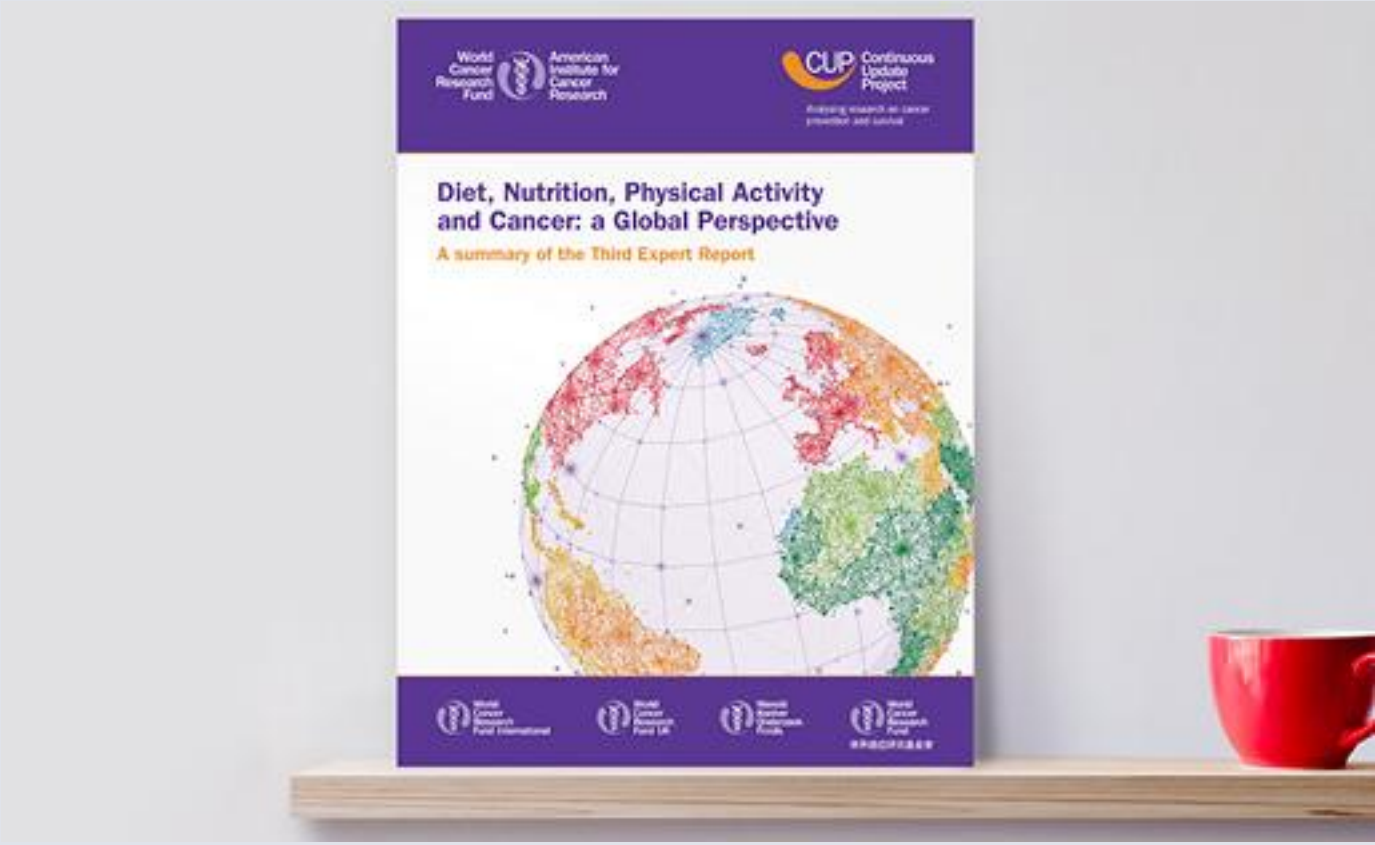
3. Hvordan kan jeg spise mig fra min kræftsygdom?

Livsstilsanbefalinger til kræftpatienter

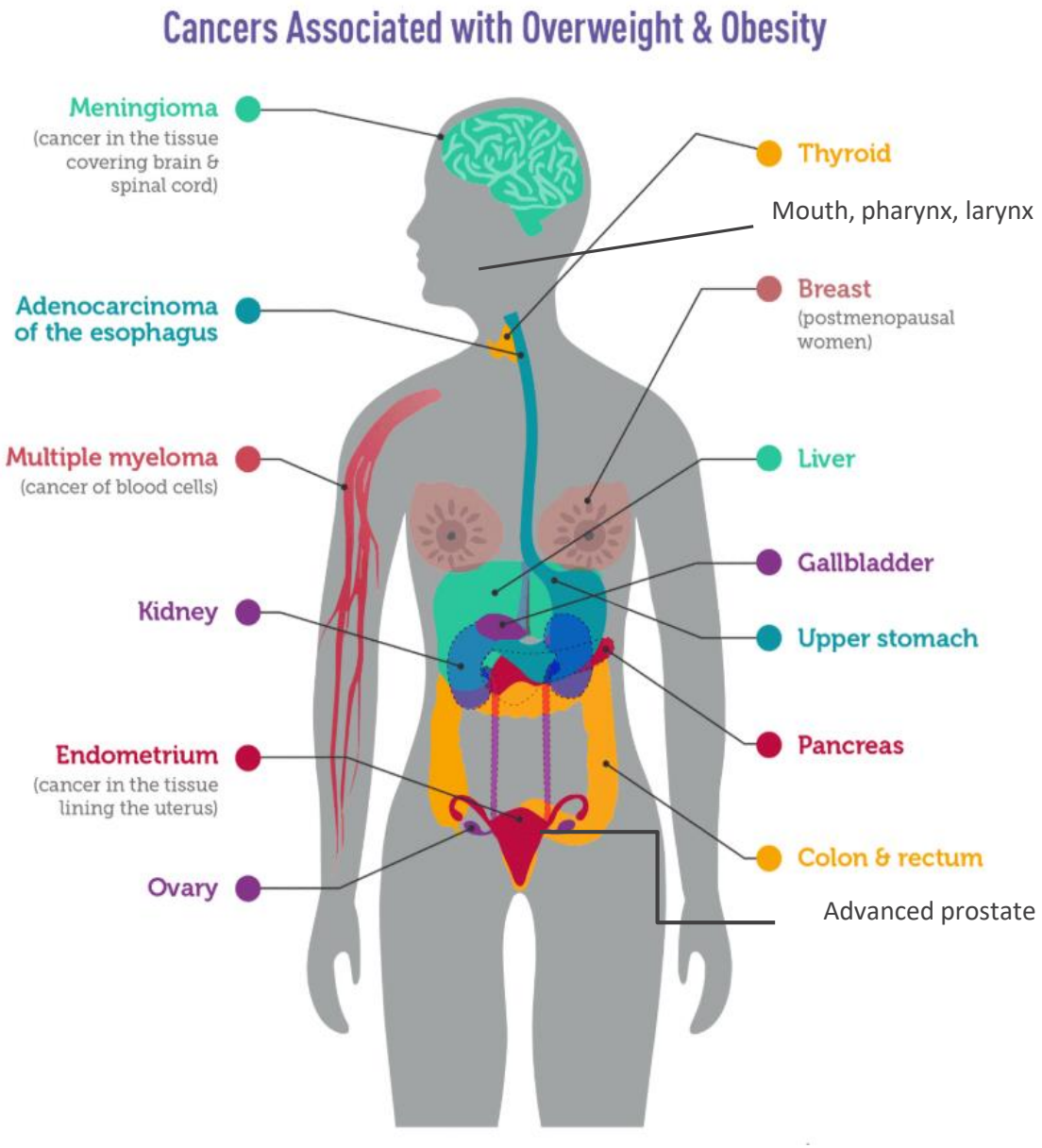
- **Hvorfor?**
  - Risiko for recidiv
  - Risiko for ny kræftsygdom
  - Øget risiko for cardiovaskulær sygdom og diabetes
- **Meget at vinde**
  - Patienterne er motiveret for forandringer
  - Lægelige autoritet er vigtig
  - Vi har fået mere viden

Hvad ved vi om kost og kræft?

www.wcrf.org/dietandcancer



OVERVÆGT OG FEDME



- Baseret på WCRF/AICR og IARC er der samlet set nu stærk evidens for sammenhæng mellem overvægt og udvikling af 15 forskellige kræfttyper

- Flere kræftformer vil formentlig blive puttet på listen i de kommende år

- European Obesety Report, 2022:
  … it is predicted that obesety will overtake smoking as the main risk factor for preventable cancer in the coming decade in some countries…..

Biologiske mekanismer, der kan forklare sammenhænge mellem overvægt og kræft?

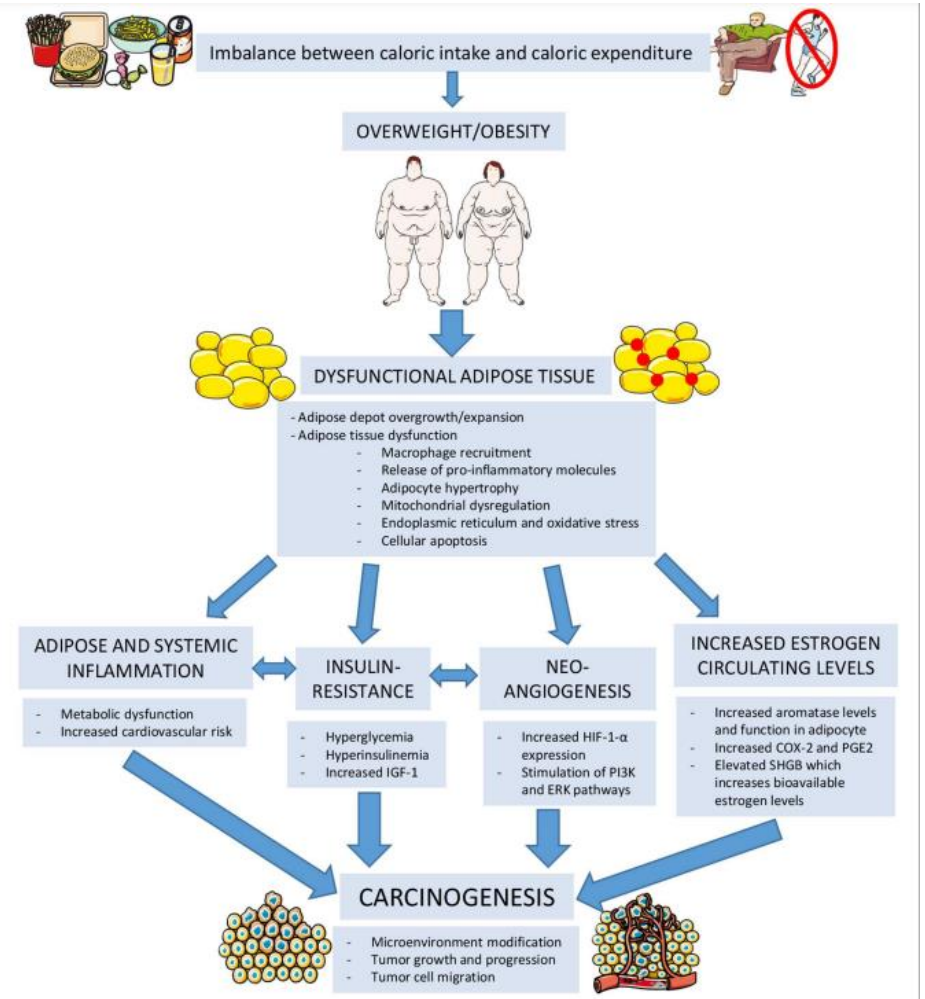


FIGURE 3 | Mechanisms linking obesity to carcinogenesis. IGF-1, Insulin-Like Growth Factor 1; HIF-1-α, Hypoxia-Inducible Factor 1 Alpha; PI3K, Phosphoinositide 3-kinase; ERK, extracellular signal-regulated kinase; COX-2, Cycloxygenase 2; PGE2, Prostaglandin E2; SHBG, Sex-Hormone Binding Globulin. (The figure was

- Der er tre hovedmekanismer, som kan spille ind i de mange af de forskellige faser i kræftudviklingen
- For visse kræfttyper er der andre mere specifikke mekanismer, der spiller ind
- Der forskes ihærdig i nye mekanismer til at belyse de biologiske sammenhænge
    - Kan ændring i mikrobiomets bakteriesammensætning grundet fedme være en bidragende faktor i linket mellem fedme og cancer?

Hjælper det at tabe sig ift. til at sænke risikoen for at få kræft?

VOLUME 35 · NUMBER 11 · APRIL 10, 2017

JOURNAL OF CLINICAL ONCOLOGY ORIGINAL REPORT

Intentional Weight Loss and Endometrial Cancer Risk

Juhua Luo, Rowan T. Chlebowski, Michael Hendryx, Thomas Rohan, Jean Wactawski-Wende, Cynthia A. Thomson, Ashley S. Felix, Chu Chen, Wendy Barrington, Mace Coday, Marcia Stefanick, Erin LeBlanc, and Karen L. Margolis

Table 1. HRs and 95% CIs for the Association Between Weight Change and Risk of Endometrial Cancer

Weight Change Between Baseline and Year 3	No. of Patients	Multivariable-Adjusted HR (95% CI)*
Change in pounds		
Stable weight (within ± 10)	425	Reference
Weight gain (≥ 10)	96	1.26 (1.00 to 1.57)
Weight loss (≥ 10)	45	0.70 (0.51 to 0.98)
Intentional	27	0.61 (0.40 to 0.92)
Unintentional	18	0.91 (0.56 to 1.46)
% weight change		
Stable weight (within ± 5)	384	Reference
Weight gain (≥ 5)	124	1.12 (0.92 to 1.38)
Weight loss (≥ 5)	58	0.71 (0.54 to 0.95)
Intentional	33	0.60 (0.42 to 0.86)
Unintentional	25	0.94 (0.62 to 1.41)

Abbreviation: HR, hazard ratio.
*Multivariable models adjusted for age at enrollment, race/ethnicity, education, smoking pack-years, recreational physical activity, history of hormone therapy use, parity, age of menarche, age at first birth, family history of endometrial cancer, and body mass index.

In conclusion, intentional weight loss in postmenopausal women was associated with lower endometrial cancer risk, especially among women with obesity. These findings should motivate programs for weight loss in obese postmenopausal women.

Weight Loss and Breast Cancer Incidence in Postmenopausal Women

Rowan T. Chlebowski, MD, PhD[1]; Juhua Luo, PhD[2]; Garnet L. Anderson, PhD[3]; Wendy Barrington, PhD[4]; Kerryn Reding, PhD[5]; Michael S. Simon, MD[6]; JoAnn E. Manson, MD, DrPh[7]; Thomas E. Rohan, MBBS, PhD[8]; Jean Wactawski-Wende, PhD[9]; Dorothy Lane, MD[10]; Howard Strickler, MD[8]; Yasmin Mosaver-Rahmani, PhD[8]; Jo L. Freudenheim, PhD[9]; Nazmus Saquib, MBBS, PhD[11]; and Marcia L. Stefanick, PhD[12]

TABLE 2. Association Between Weight Change and Risk of Breast Cancer

Weight Change Between Baseline and Year 3	n	Age-Adjusted HR (95% CI)	Multivariable-Adjusted HR (95% CI)
Stable weight (<5%)	2092	Reference	Reference
Weight gain (≥5%)	620	1.03 (0.94-1.13)	1.02 (0.93-1.11)
Weight loss (≥5%)	349	0.92 (0.82-1.03)	0.88 (0.78-0.98)
Intentional	229	0.97 (0.85-1.11)	0.91 (0.79-1.04)
Unintentional	120	0.84 (0.70-1.01)	0.82 (0.68-0.99)

Abbreviations: CI, confidence interval; HR, hazard ratio.
In multivariable models, we adjusted for Gail score, education, smoking pack-year, recreational physical activity, alcohol intake, history of hormone therapy use, parity, and body mass index. Associations reflect findings for overall weight change.

In conclusion, weight loss in postmenopausal women is associated with lower breast cancer risk. These findings suggest that interventions in postmenopausal women designed to generate weight loss may result in a reduction in breast cancer risk.

JAMA Network | Open

Original Investigation | Nutrition, Obesity, and Exercise

Association of Obesity With Survival Outcomes in Patients With Cancer
A Systematic Review and Meta-analysis

Fausto Petrelli, MD; Alessio Cortellini, MD; Alice Indini, MD; Gianluca Tomasello, MD; Michele Ghidini, MD; Olga Nigro, MD; Massimiliano Salati, MD; Lorenzo Dottorini, MD; Alessandro Iaculli, MD; Antonio Varricchio, MD; Valentina Rampulla, MD; Sandro Barni, MD; Mary Cabiddu, MD; Antonio Bossi, MD; Antonio Ghidini, MD; Alberto Zaniboni, MD

Table 3. Association of Obesity With Cancer-Specific Mortality by Cancer Type

Disease	Studies, No.	HR (95% CI)	*P* value	I^2, %	Type of analysis
Bladder or UTUC	3	1.36 (0.96-1.93)	.08	59.4	Random
Breast	36	1.23 (1.15-1.32)	.004	58.8	Random
CRC	13	1.24 (1.16-1.33)	.002	0	Random
Gastroesophageal	2	0.83 (0.58-1.16)	.28	0	Random
Head and neck	3	1.35 (0.27-6.74)	.70	90.5	Random
Hepatobiliary	1	0.79 (0.50-1.24)	.31	0	Random
Lung	3	0.53 (0.30-0.92)	.02	0	Random
Ovarian	4	1.06 (0.82-1.37)	.61	33.3	Random
Pancreas	3	1.28 (1.05-1.57)	.01	61.1	Random
Prostate	15	1.26 (1.08-1.47)	.001	57.9	Random
RCC	4	1.08 (0.58-2.00)	.80	89.5	Random
Uterine	6	1.02 (0.75-1.39)	.86	69.1	Random
Various	16	1.08 (0.97-1.19)	.14	83.3	Random

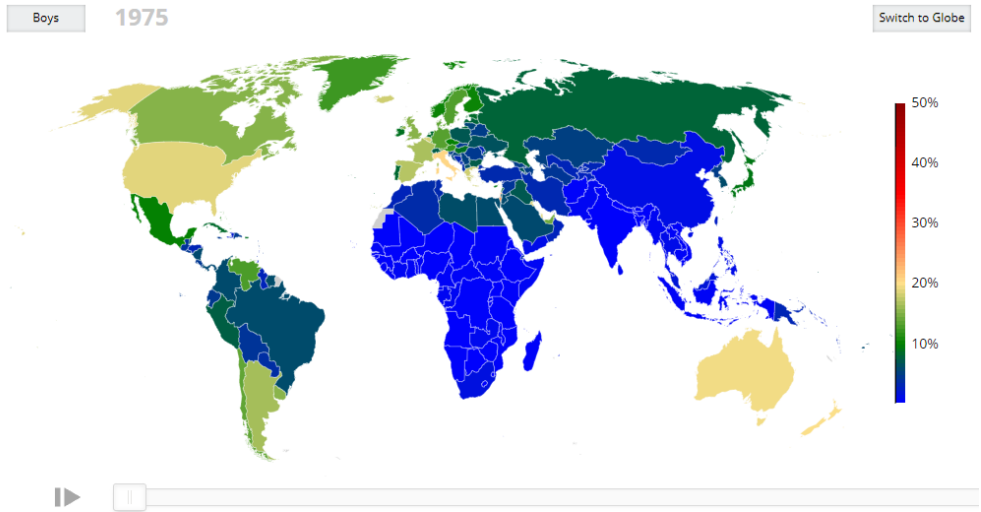
Key Points

Question Is obesity associated with better prognosis in patients with cancer?

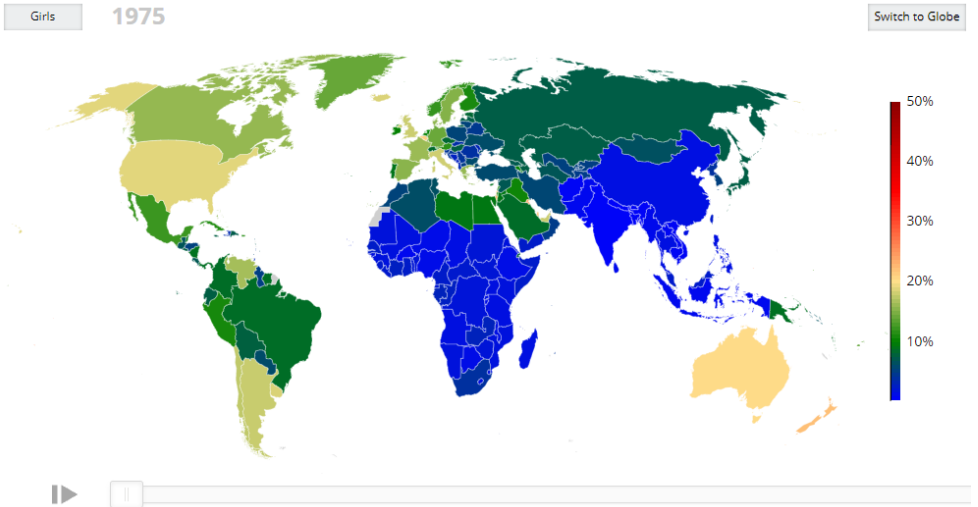
Findings This meta-analysis of 203 studies with more than 6.3 million participants found that obesity was associated with increased overall and cancer-specific mortality, especially among patients with breast, colon, and uterine cancer. In contrast, patients with obesity and renal cell carcinoma, lung cancer, or melanoma had better survival than patients without obesity.

Meaning These findings suggest that survival outcomes are poor among patients with obesity and cancer, except in lung cancer and melanoma.

Hvad betydning får det for den fremtidige kræftudvikling, hvis andelen af unge overvægtige



Overweight refers to BMI >1SD from the median of the WHO growth reference.
Age-standardised estimates for children and adolescents aged 5 to 19 years.



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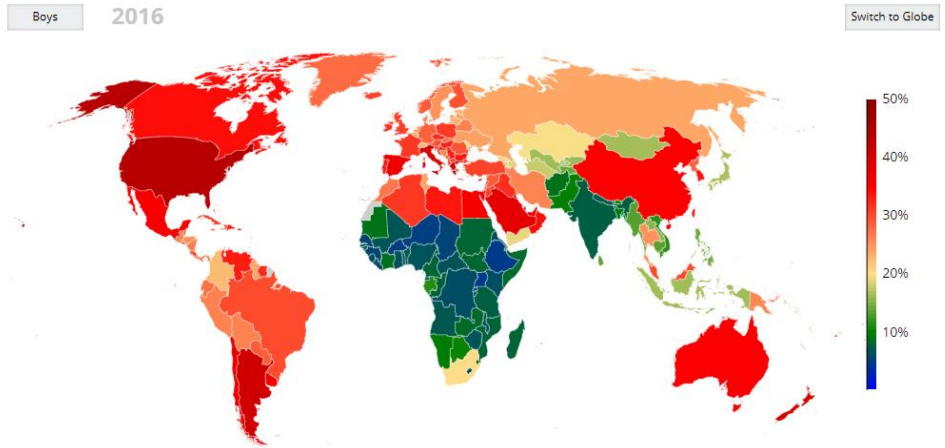
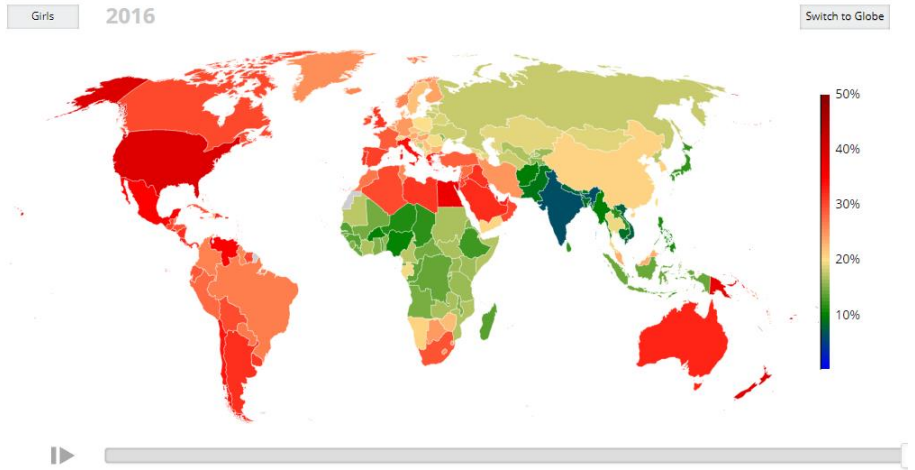




Hvad betydning får det for den fremtidige kræftudvikling, hvis andelen af unge overvægtige

Emerging cancer trends among young adults in the USA: analysis of a population-based cancer registry

Hyuna Sung, Rebecca L Siegel, Philip S Rosenberg, Ahmedin Jemal

Summary

Background Cancer trends in young adults, often under 50 years, reflect recent changes in carcinogenic exposures, which could foreshadow the future overall disease burden. Previous studies reported an increase in early onset colorectal cancer, which could partly reflect the obesity epidemic. We examined age-specific contemporary incidence trends in the USA for 30 common cancers, including 12 obesity-related cancers.

Interpretation The risk of developing an obesity-related cancer seems to be increasing in a stepwise manner in successively younger birth cohorts in the USA. Further studies are needed to elucidate exposures responsible for these emerging trends, including excess bodyweight and other risk factors.

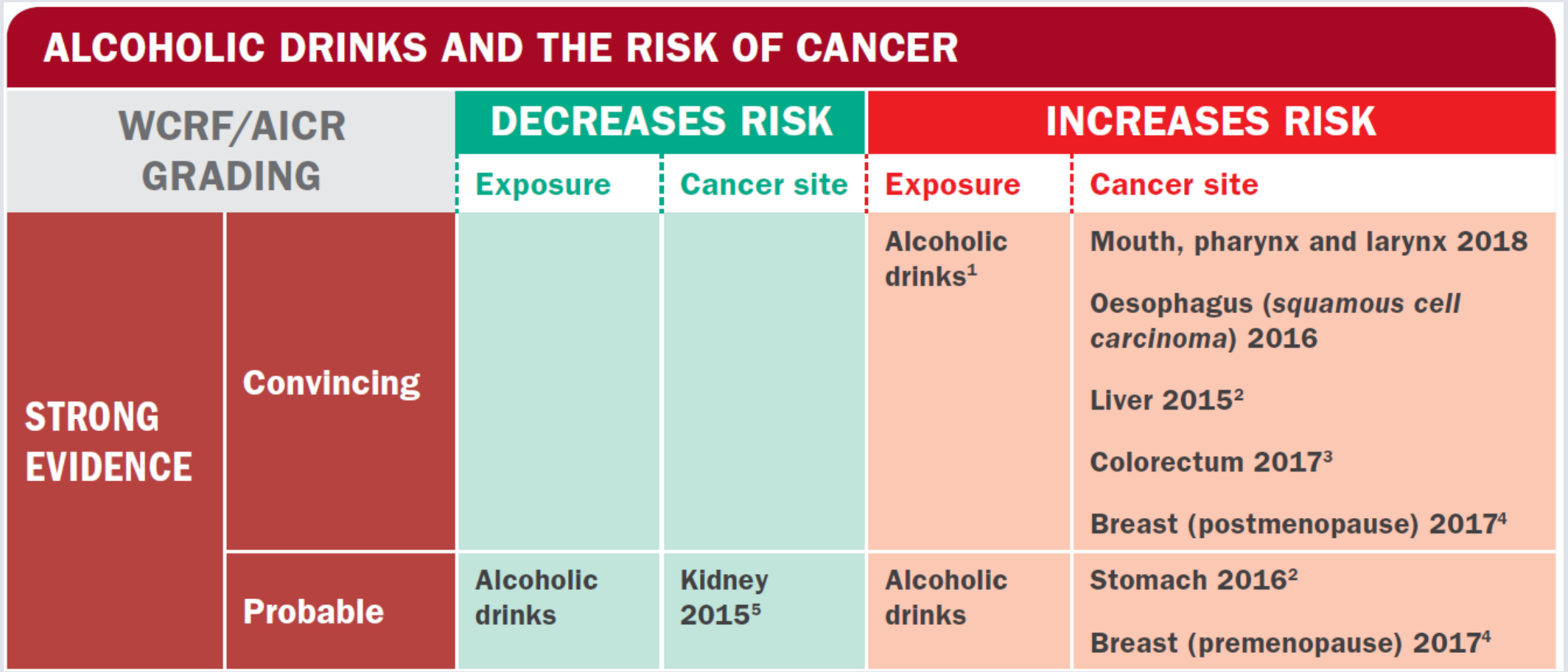
Lancet Public Health 2019
Published Online
February 4, 2019
http://dx.doi.org/10.1016/S2468-2667(18)30267-6

- Incidensen steg for 6 af de 12 fedmerelaterede kræftformer hos de 25-49 årige med størst stigning i gradvis yngre generationer

- Incidensen steg kun i 2 ud af 18 ikke fedme-relaterede kræftformer hos de yngre generationer, mens den faldt for en række kræftformer relateret til rygning

ALKOHOL

Alkohol og kræftrisiko



ALCOHOLIC DRINKS AND THE RISK OF CANCER

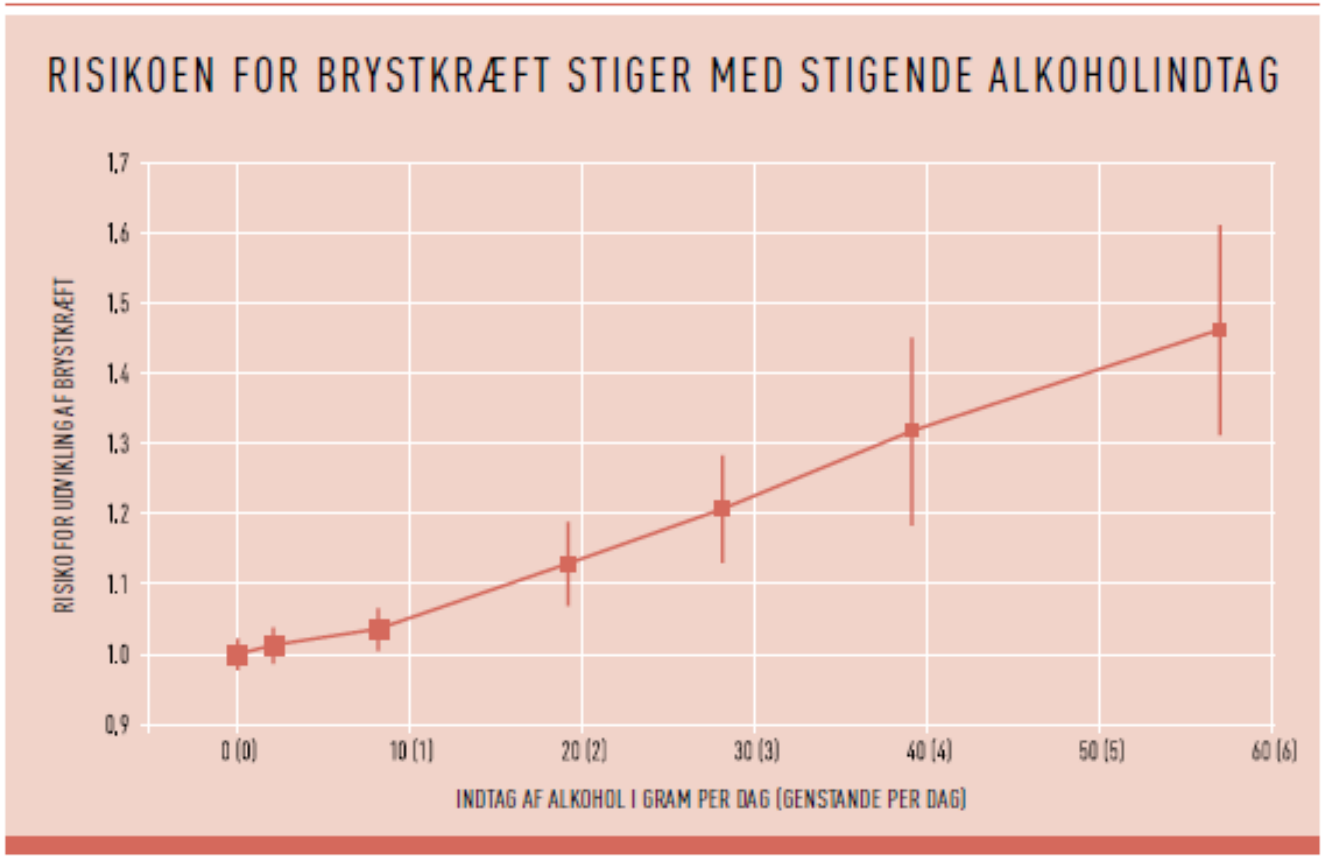
WCRF/AICR GRADING		DECREASES RISK		INCREASES RISK	
		Exposure	Cancer site	Exposure	Cancer site
STRONG EVIDENCE	Convincing			Alcoholic drinks[1]	Mouth, pharynx and larynx 2018 Oesophagus (*squamous cell carcinoma*) 2016 Liver 2015[2] Colorectum 2017[3] Breast (postmenopause) 2017[4]
	Probable	Alcoholic drinks	Kidney 2015[5]	Alcoholic drinks	Stomach 2016[2] Breast (premenopause) 2017[4]

World Cancer Research Fund/American Institute for Cancer Research. Diet, Nutrition, Physical Activity and Cancer: a Global Perspective. Continuous Update Project Expert Report 2018. Available at: dieandcancerreport.org

Alkohol og brystkræft

Stærkeste kostfaktor!

- 7–10% risikoforøgelse ved ekstra 10g alkohol/dag
- Drikkemønster uden betydning
- I USA skyldes 2% af alle brystkræfttilfælde alkohol, i DK 15%!!

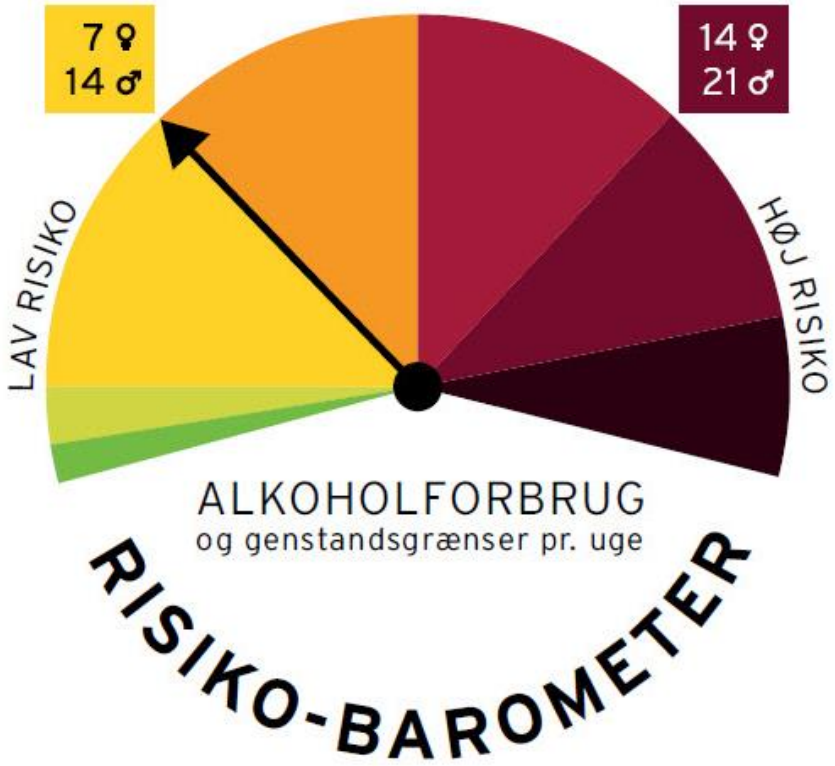


Alkohol

Mulige mekanismer

Eksempler på mekanismer:

- Acetaldehyd øger den tidlige tumorinitiering og vækst
- Alkohol kan virke som opløsningsmiddel for andre kræftfremkaldende stoffer (f.eks. tobaksrøg)
- Alkohol øger blodets østrogenindhold



Sundhedsstyrelsen

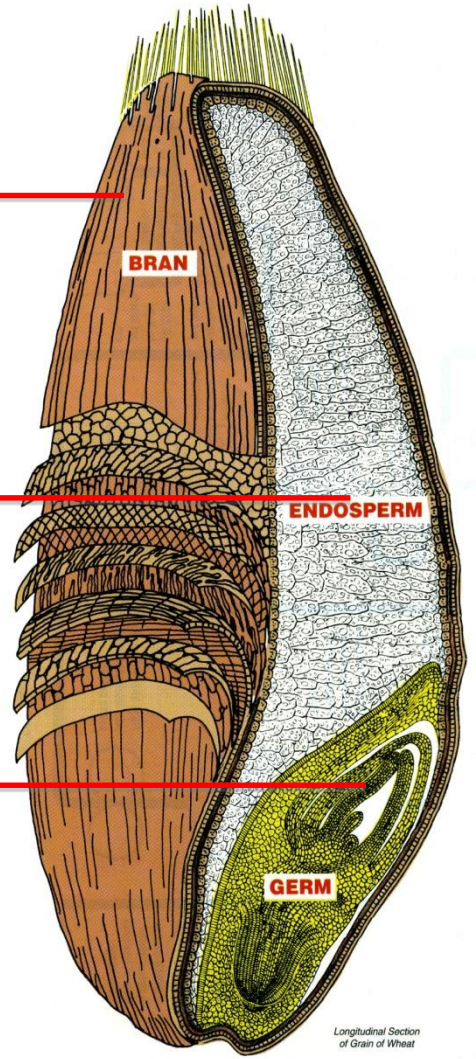
FULDKORN

Fuldkorn

Klid:
- B vitaminer
- Phytokemikalier
- Protein
- Fiber

Endosperm:
- Protein
- Kulhydrater

Kim:
- B vitaminer
- Polyumættede fedtsyrer
- Phytokemikalier
- Vitamin E
- Mineraler



Sundhedseffekter af fuldkorn

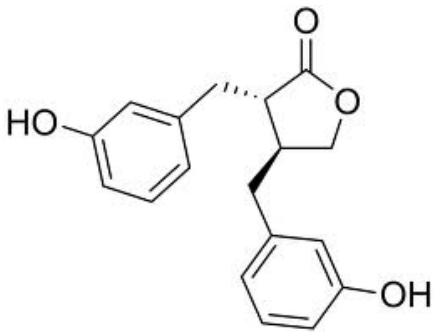
Mulige mekanismer

"Mekaniske" effekter:

- Hurtigere transittid
- Indpakning af carcinogener
- Langsommere mavetøming
- Øget mæthed

Indirekte effekter

- Produktion af SCFA – butyrat
- Glucose/insulin balance
- Lavere kolesterol (β-glucan)
- Vitaminer og mineraler
- Lavere blodtryk?
- Nedsat inflammation?
- Mikrobiomet??



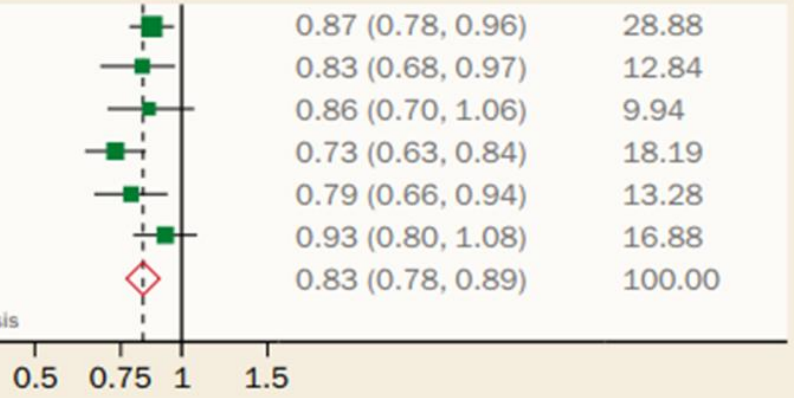
Enterolactone

Fuldkorn og tyktarmskræft

Figure 1: Dose-response meta-analysis of wholegrains intake and colorectal cancer per 90 grams per day

Author	Year	Sex	Per 90 g/day RR (95% CI)	% Weight
Kyrø	2013	M/W	0.87 (0.78, 0.96)	28.88
Fung	2010	M	0.83 (0.68, 0.97)	12.84
Fung	2010	W	0.86 (0.70, 1.06)	9.94
Schatzkin	2007	M/W	0.73 (0.63, 0.84)	18.19
McCarl	2006	W	0.79 (0.66, 0.94)	13.28
Larsson	2005	W	0.93 (0.80, 1.08)	16.88
Overall (I-squared = 18.2%, p = 0.295)			0.83 (0.78, 0.89)	100.00

NOTE: Weights are from random effects analysis



VÆLG FULDKORN FØRST

WHOLEGRAINS, VEGETABLES AND FRUIT AND THE RISK OF CANCER

WCRF/AICR GRADING		DECREASES RISK		INCREASES RISK	
		Exposure	Cancer site	Exposure	Cancer site
STRONG EVIDENCE	Convincing			Aflatoxins	Liver 2015[1]
		Wholegrains	Colorectum 2017	Foods preserved by salting (including preserved non-starchy vegetables)	Stomach 2016[2]
	Probable	Foods containing dietary fibre	Colorectum 2017[3]		
		Non-starchy vegetables and fruit (aggregated)	*Aerodigestive cancer and some other cancers (aggregated)*[4]		

World Cancer Research Fund/American Institute for Cancer Research. Continuous Update Project Expert Report 2018. Wholegrains vegetables and fruit and the risk of cancer. Available at: dieandcancerreport.org

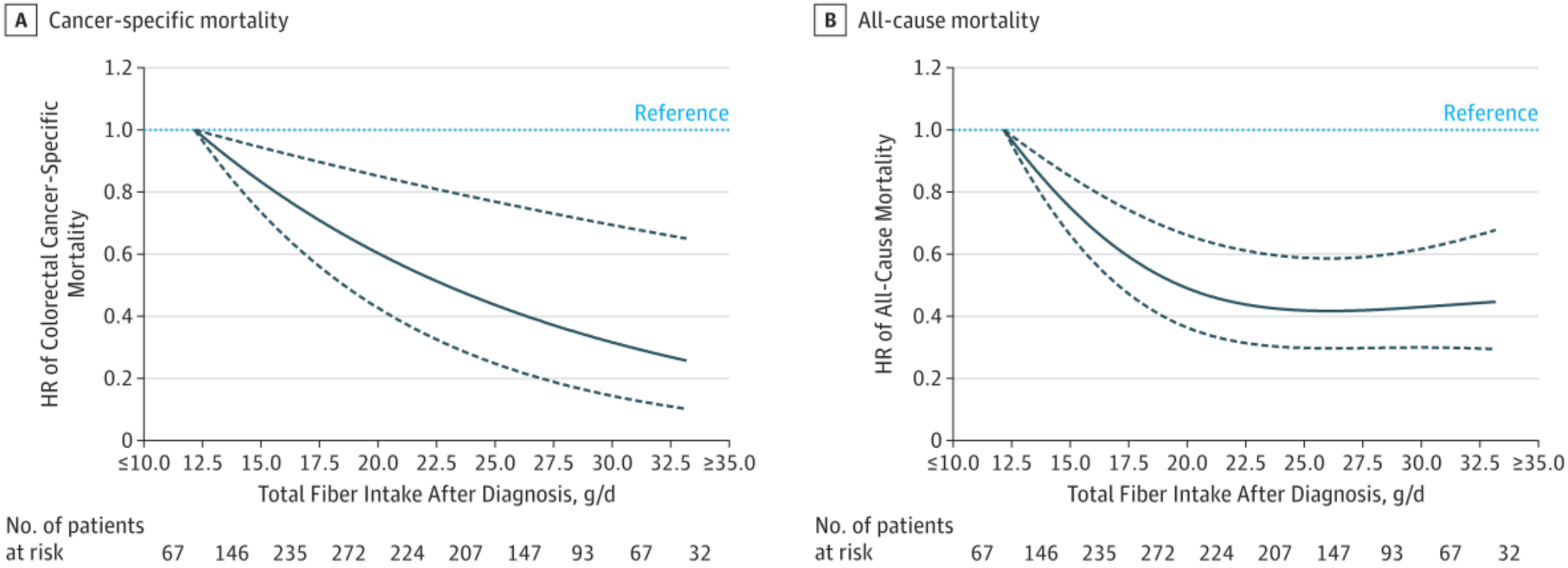
Fuldkornsanbefalinger

Den officielle anbefaling:

- 75 gram fuldkorn om dagen

Fiber/fuldkorn og overlevelse efter tyktarmskræft

Figure. Dose-Response Relationship Between Postdiagnostic Fiber Intake and Mortality Among Patients With Colorectal Cancer



Song et al. 2017, JAMA oncology.

Frugt & Grønt

Beskytter frugt og grønt mod kræft?

- World Cancer Research Fund, 1997: *"**Overbevisende evidens** for beskyttende effekt af frugt og grøntsager I forhold til mange kræftformer"*
- WHO, 1997: *"Hvis alle i den vestlige verden spiste **4-600 gram** frugt og grøntsager dagligt, ville **23%** af alle kræfttilfælde kunne forebygges"*
- World Cancer Research Fund, 2007: ***"Begrænset evidens"***

Beskytter frugt og grønt?

Meget lave indtag øger risikoen; <200 gram/dag:

- Vitaminer, antioxidanter, phytokemikalier

Måske begrænset ekstra effekt >400 gram/dag

- Indirekte effekter via nedsat energiindtag=nedsat risiko for overvægt

WHOLEGRAINS, VEGETABLES AND FRUIT AND THE RISK OF CANCER

WCRF/AICR GRADING		DECREASES RISK		INCREASES RISK	
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World Cancer Research Fund/American Institute for Cancer Research. Continuous Update Project Expert Report 2018. Wholegrains vegetables and fruit and the risk of cancer. Available at: dieandcancerreport.org

RØDT OG FORARBEJDET KØD

Rødt og forarbejdet kød

Definition:

- Rødt kød = kød fra køer, grise, får, ged (4-benede dyr)
- Hvidt kød = Fisk og fjerkræ
- Forarbejdet kød = Kød som er røget, tørret, saltet eller konserveret; fx. Pølser, pålæg og røget skinke

Mulige mekanismer:

- Kræftfremkaldende nitrosaminer fra nitrit
- Heterocykliske aminer (HCA) / Polycyklisk aromatiske hydrocarbon (PAH)
- Hæm-jern fremmer dannelsen af nitrosaminer

Rødt og forarbejdet kød

MEAT, FISH AND DAIRY PRODUCTS AND THE RISK OF CANCER					
WCRF/AICR GRADING		DECREASES RISK		INCREASES RISK	
		Exposure	Cancer site	Exposure	Cancer site
STRONG EVIDENCE	Convincing			Processed meat[1]	Colorectum 2017
	Probable	Dairy products	Colorectum 2017[2]	Red meat[3] Cantonese-style salted fish[4]	Colorectum 2017 Nasopharynx 2017

World Cancer Research Fund/American Institute for Cancer Research. Continuous Update Project Expert Report 2018. Meat, fish and dairy products and the risk of cancer. Available at: dieandcancerreport.org

Hvad skal man vælge?

Rødt kød

Stegning

Røgning

Nitritsalt

Er bacon farligt?

25. OCTOBER 2015
REDIGERET AF: FLEMMING JØRGENSEN

BRUNCH-BOMBE

Ny rapport fra sundhedsorganisationen WHO bandlyser forarbejdet kød som pølser, bacon og skinke

International Agency for Research on Cancer
World Health Organization

IARC MONOGRAPHS CLASSIFICATION

The classification indicates the level of certainty that a substance can cause cancer (*hazard identification*)

This classification does not indicate the level of risk associated with exposure (*risk assessment*)

Higher level of certainty

Lower level of certainty

IARC Group	Level of certainty that a substance can cause cancer (typical examples of evidence leading to each group)	Substances evaluated
GROUP 1	**CARCINOGENIC TO HUMANS** Sufficient evidence in humans. Causal relationship established.	Tobacco smoking, solar radiation, consumption of alcoholic beverages, consumption of processed meat, benzene, ionizing radiation, outdoor air pollution, asbestos
GROUP 2A	**PROBABLY CARCINOGENIC TO HUMANS** Limited evidence in humans. Sufficient evidence in experimental animals.	Emissions from high-temperature frying, glyphosate, DDT, consumption of red meat
GROUP 2B	**POSSIBLY CARCINOGENIC TO HUMANS** Limited evidence in humans. Less than sufficient evidence in experimental animals.	Gasoline engine exhaust, radiofrequency electromagnetic fields, *Aloe vera*, lead
GROUP 3	**NOT CLASSIFIABLE AS TO ITS CARCINOGENICITY TO HUMANS** Inadequate evidence in humans. Inadequate evidence in experimental animals.	Coffee drinking, crude oil, mercury, paracetamol
GROUP 4	**PROBABLY NOT CARCINOGENIC TO HUMANS** Evidence suggesting lack of carcinogenicity in humans and in experimental animals.	Caprolactam

Only one substance in Group 4, because the IARC Monographs focus on substances that are suspected to cause cancer, based on scientific publications

Er kød ligeså farligt som cigaretter?

NEJ!

Population attributable fraction*

- Forarbejdet kød = 34.000 kræft-relaterede dødsfald per år
- Rødt kød= 50.000 kræft-relaterede dødsfald per år
- Rygning = 1.000.000 kræft-relaterede dødsfald per år
- Luftforurening = 200.000 kræft-relaterede dødsfald per år

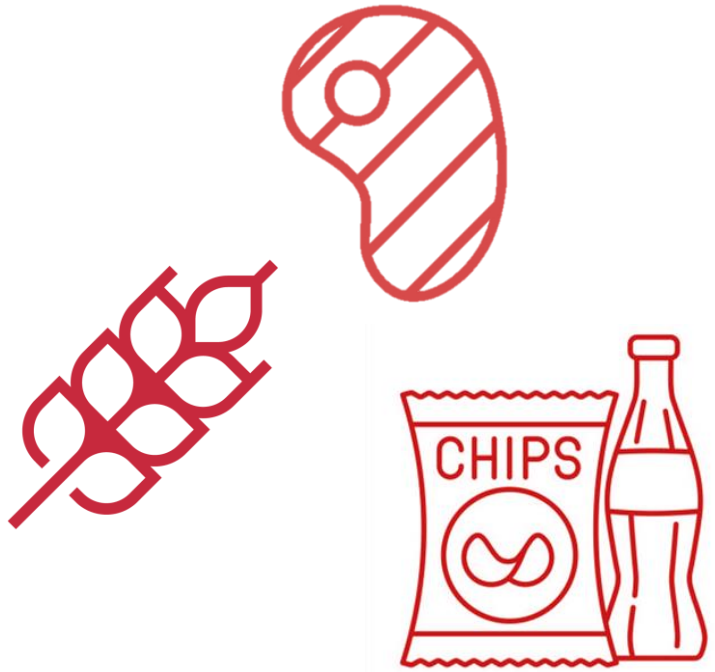
* Andelen af dødsfald, der kan forebygges ved at udelukke eksponeringen fuldstændigt

Dietary components, effects beyond obesity

29% of the 13 most common cancers in Europe are preventable through diet, physical active lives and weight management

World Cancer Research Fund

American Institute for Cancer Research



Whole grains, red and processed meat, sugar sweetened bev./non-nutritive sweeteners, ultra-proc. foods

ARTICLE

Changes in lifestyle and risk of colorectal cancer in the European Prospective Investigation into Cancer and Nutrition

Botteri, Edoardo PhD[1,2]; Peveri, Giulia MSc[3,4]; Berstad, Paula PhD[1]; Bagnardi, Vincenzo PhD[5]; Chen, Sairah L. F. MSc[6]; Sandanger, Torkjel M. PhD[6]; Hoff, Geir MD, PhD[1,7]; Dahm, Christina C. PhD[8]; Antoniussen, Christian Skødt MSc[8]; Tjønneland, Anne MD, PhD[9]; Eriksen, Anne Kirstine PhD[9]; Skeie, Guri PhD[6]; Perez-Cornago, Aurora PhD[10]; Huerta, José María PhD[11,12]; Jakszyn, Paula PhD[13]; Harlid, Sophia PhD[14]; Sundström, Björn PhD[15]; Barricarte, Aurelio PhD[12,16,17]; Monninkhof, Evelyn M. PhD[18]; Derksen, Jeroen W.G. PhD[18]; Schulze, Matthias B. PhD[19,20]; Bueno-de-Mesquita, Bas MD, PhD[21]; Sánchez, Maria-Jose MD, PhD[12,22,23,24]; Cross, Amanda J. PhD[25]; Tsilidis, Konstantinos K. PhD[25,26]; De Magistris, Maria Santucci MSc[27]; Kaaks, Rudolf PhD[28]; Katzke, Verena PhD[28]; Rothwell, Joseph A PhD[29]; Laouali, Nasser PhD[29]; Severi, Gianluca PhD[29,30]; Amiano, Pilar PhD[31,32,33]; Contiero, Paolo PhD[34]; Sacerdote, Carlotta PhD[35]; Goldberg, Marcel MD, PhD[36]; Touvier, Mathilde PhD[37,38]; Freisling, Heinz PhD[39]; Viallon, Vivian PhD[39]; Weiderpass, Elisabete MD, PhD[39]; Riboli, Elio MD, MSc[25]; Gunter, Marc J. PhD[39]; Jenab, Mazda PhD[39]; Ferrari, Pietro PhD[39,*]

Author Information

The American Journal of Gastroenterology: October 12, 2022 - Volume - Issue - 10.14309/ajg.0000000000002065
doi: 10.14309/ajg.0000000000002065

- Healthy index (score 0–16)
- n=295,865

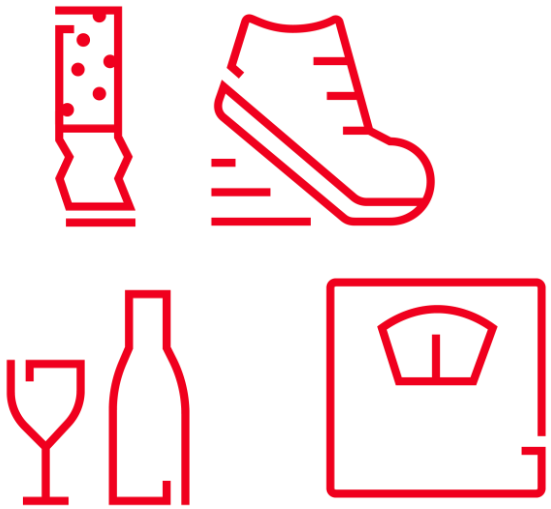
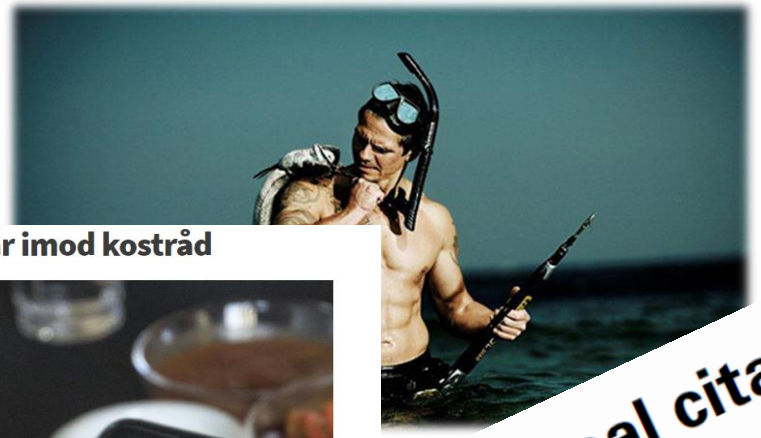


Table 2. Association between lifestyle changes from baseline to follow-up and risk of colorectal cancer

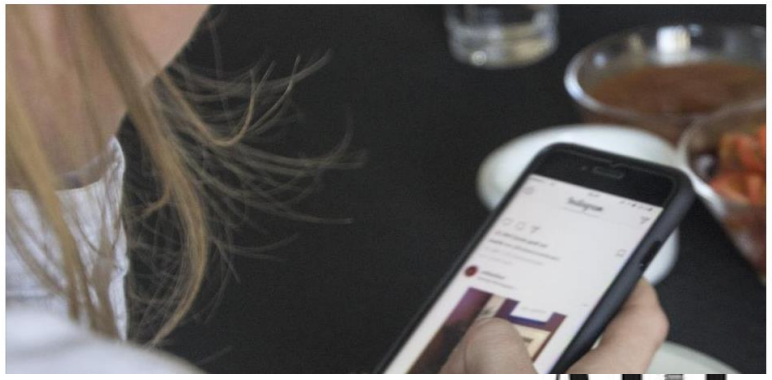
				By sex*	
			Overall	Males	Females
		n (CRC events)	295865 (2799)	83146 (1299)	212719 (1500)
Model 1	Difference in continuous HLI score	1unit increase	**0.97 (0.95-0.997)**	**0.97 (0.93-0.998)**	0.98 (0.95-1.01)
Model 2	Difference in categorical HLI score	≤ -3 vs 0	**1.21 (1.02-1.43)**	**1.31 (1.01-1.69)**	1.15 (0.92-1.42)
		-2 vs 0	0.95 (0.77-1.16)	0.95 (0.72-1.24)	0.94 (0.72-1.24)
		-1 vs 0	0.99 (0.83-1.17)	0.98 (0.78-1.25)	0.98 (0.80-1.21)
		1 vs 0	1.00 (0.85-1.17)	1.00 (0.80-1.25)	1.01 (0.82-1.23)
		2 vs 0	0.95 (0.81-1.12)	0.96 (0.77-1.20)	0.94 (0.75-1.19)
		≥ 3 vs 0	0.88 (0.74-1.05)	0.86 (0.69-1.07)	0.91 (0.70-1.18)

2. DEL
MYTER

Mange ”uvidenskabelige” kilder vil gerne fortælle os hvad der er rigtigt og forkert



Bloggere og sociale medier går imod kostråd



ALT for dam

For all the women you a

FEM

Journal citation reports and the definition of a predatory journal: The case of the Multidisciplinary Digital Publishing Institute (MDPI)

M. Ángeles Oviedo-García*

KM

MYTE

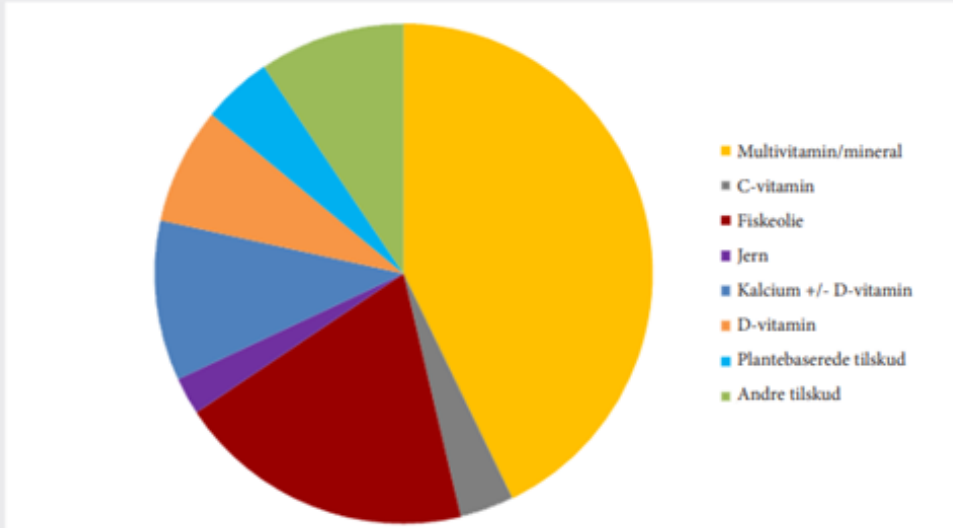
SPIS KOSTTILSKUD OG UNDGÅ KRÆFT

Vi elsker kosttilskud

Tabel 2. Andel af personer der tager kosttilskud blandt mænd og kvinder i forskellige aldersgrupper

	Mænd	Kvinder
18-25 år	50,8	60,6
26-35 år	54,9	68,4
36-45 år	60,2	63,5
46-55 år	51,2	70,8
56-65 år	60,3	77,9
66 år og derover	63,1	80,5

DTU Fødevareinstituttet



Figur 1. Fordeling af typer kosttilskud, der er rapporteret blandt børn og voksne 2011-13

Gør kosttilskud os sundere?

Clinical Review & Education

JAMA | US Preventive Services Task Force | RECOMMENDATION STATEMENT

Vitamin, Mineral, and Multivitamin Supplementation to Prevent Cardiovascular Disease and Cancer

US Preventive Services Task Force Recommendation Statement

US Preventive Services Task Force

IMPORTANCE According to National Health and Nutrition Examination Survey data, 52% of surveyed US adults reported using at least 1 dietary supplement in the prior 30 days and 31% reported using a multivitamin-mineral supplement. The most commonly cited reason for using supplements is for overall health and wellness and to fill nutrient gaps in the diet. Cardiovascular disease and cancer are the 2 leading causes of death and combined account for approximately half of all deaths in the US annually. Inflammation and oxidative stress have been shown to have a role in both cardiovascular disease and cancer, and dietary supplements may have anti-inflammatory and antioxidative effects.

OBJECTIVE To update its 2014 recommendation, the US Preventive Services Task Force (USPSTF) commissioned a review of the evidence on the efficacy of supplementation with single nutrients, functionally related nutrient pairs, or multivitamins for reducing the risk of cardiovascular disease, cancer, and mortality in the general adult population, as well as the harms of supplementation.

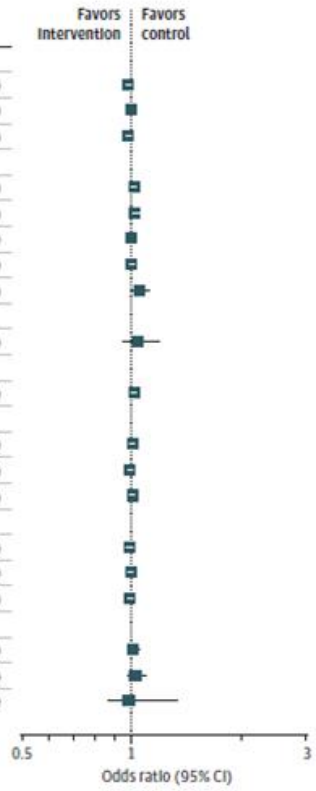
Editorial page 2294
Multimedia
Related article page 2334 and JAMA Patient Page page 2364
Supplemental content
Related article at jamainternalmedicine.com

JAMA. 2022;327(23):2326-2333. doi:10.1001/jama.2022.8970

Gør kosttilskud os sundere?

Figure 3. Summary of Meta-analysis Results or Best Evidence for Primary Key Question 1 and Key Question 3 Outcomes

Outcome	No. of studies	No. analyzed	% with event		Odds ratio (95% CI)
			Intervention	Control	
Multivitamin					
All-cause mortality[a]	9	51 550	7.3	7.7	0.94 (0.87-1.01)
CVD event[b]	1	21 442	4	4.1	0.98 (0.86-1.12)
Any cancer[a]	4	48 859	8.5	9	0.93 (0.87-0.99)
Beta carotene					
All-cause mortality	6	112 820	5.4	5.1	1.06 (1.00-1.12)
CVD mortality	5	94 506	2.8	2.6	1.10 (1.02-1.19)
CVD events	2	61 947	3.5	3.5	1.01 (0.92-1.10)
Any cancer	2	61 947	5.3	5.4	0.99 (0.92-1.07)
Lung cancer[c]	4	94 830	1.2	1	1.20 (1.01-1.42)
Vitamin A					
All-cause mortality[d]	1	2297	5.4	4.6	1.16 (0.80-1.69)
Beta carotene or vitamin A					
All-cause mortality	7	115 117	5.4	5.1	1.06 (1.01-1.12)
Vitamin E					
All-cause mortality	9	107 772	6.9	6.8	1.02 (0.97-1.07)
CVD events	4	62 136	5.1	5.2	0.96 (0.90-1.04)
Any cancer	5	76 777	8.8	8.6	1.02 (0.98-1.08)
Vitamin D					
All-cause mortality	27	117 082	5	5.7	0.96 (0.91-1.02)
CVD events	7	74 925	8.1	8.2	1.00 (0.95-1.05)
Any cancer	19	86 899	6.7	6.8	0.98 (0.92-1.03)
Calcium					
All-cause mortality	6	8394	13.1	12.7	1.05 (0.92-1.21)
CVD events	4	4076	10.7	9.7	1.11 (0.90-1.36)
Any cancer[a]	3	5051	8.7	8.9	0.94 (0.41-2.14)



Mantel-Haenszel fixed-effects model used unless otherwise specified. Percent with an event is calculated as the weighted mean percent with an event across

[b] Evidence shown is a hazard ratio from a single study, PHS-II. PHS-II p the number of cardiovascular disease (CVD) events rather than the n

JAMA. 2022;327(23):2326-2333. doi:10.1001/jama.2022.8970

Kosttilskud - kræftpatienter

original rep

Dietary Supplement Use During Chemotherapy and Survival Outcomes of Patients With Breast Cancer Enrolled in a Cooperative Group Clinical

RESULTS There were indications that use of any antioxidant supplement (vitamins A, C, and E; carotenoids; coenzyme Q10) both before and during treatment was associated with an increased hazard of recurrence (adjusted hazard ratio [adjHR], 1.41; 95% CI, 0.98 to 2.04; $P = .06$) and, to a lesser extent, death (adjHR, 1.40; 95% CI, 0.90 to 2.18; $P = .14$). Relationships with individual antioxidants were weaker perhaps because of small numbers. For nonantioxidants, vitamin B12 use both before and during chemotherapy was significantly associated with poorer disease-free survival (adjHR, 1.83; 95% CI, 1.15 to 2.92; $P < .01$) and overall survival (adjHR, 2.04; 95% CI, 1.22 to 3.40; $P < .01$). Use of iron during chemotherapy was significantly associated with recurrence (adjHR, 1.79; 95% CI, 1.20 to 2.67; $P < .01$) as was use both before and during treatment (adjHR, 1.91; 95% CI, 0.98 to 3.70; $P = .06$). Results were similar for overall survival. Multivitamin use was not associated with survival outcomes.

Kosttilskud kræftpatienter

Søndag d. 10. feb. 2019 - kl. 14:16

62

Ny forskning: Kosttilskud kan forringe kræftbehandling

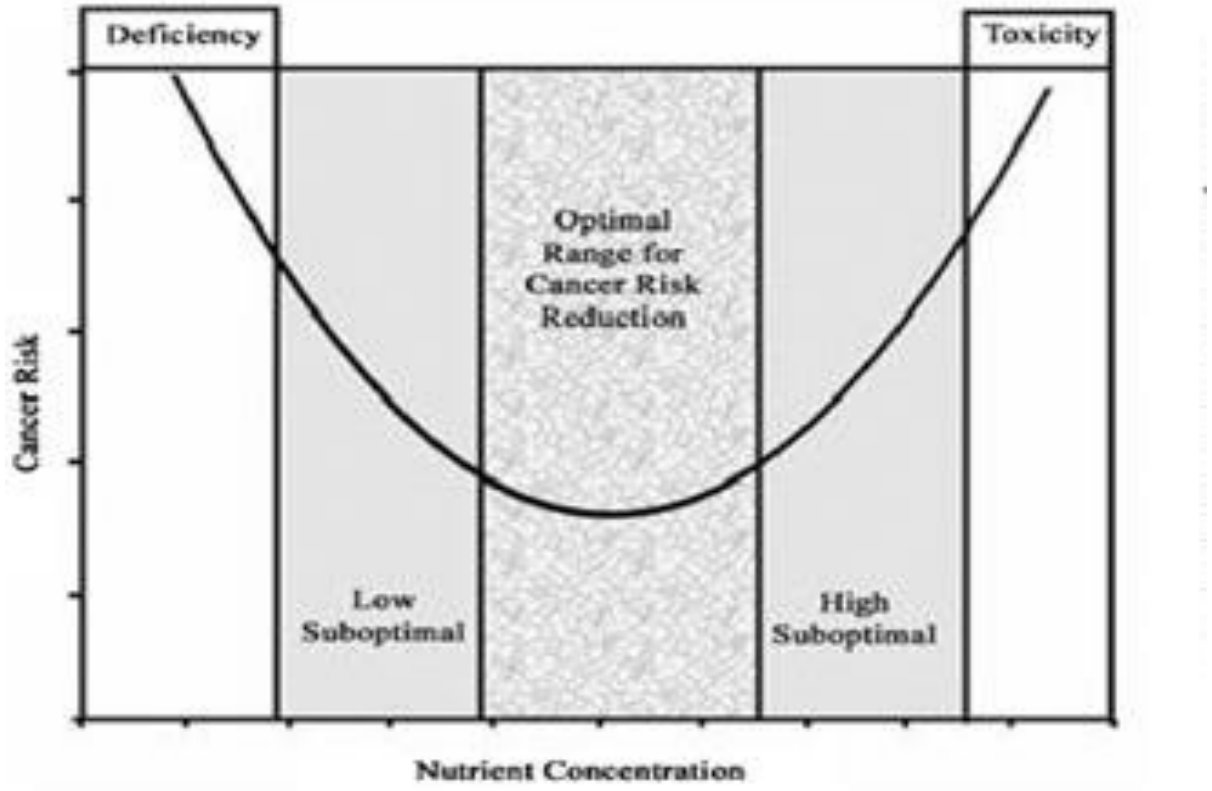
Et tysk studie viser, at brug af kosttilskud med antioxidanter, mens man gennemgår brystkræft-behandling, øger risikoen for at dø

Kosttilskud - konklusion

Der er ikke videnskabeligt belæg for en generel gavnlig effekt

Nogen gange er det måske endda skadeligt

Mikronæringsstoffer, kosttilskud ...



Det skader i hvert fald ikke……. **Myte?**

MYTE
MÆLK GIVER KRÆFT?

Giver mælk kræft?

- Der er en mulig svag sammenhæng mellem høj indtagelse af mælk og udvikling af prostatakræft
- Det skyldes sandsynligvis mælks indhold af calcium

2014	DIET, NUTRITION, PHYSICAL ACTIVITY AND PROSTATE CANCER		
		DECREASES RISK	INCREASES RISK
STRONG EVIDENCE	Convincing		
	Probable		Body fatness (advanced prostate cancer)[1,2] Adult attained height[3]
	Limited – suggestive		Dairy products Diets high in calcium Low plasma alpha-tocopherol concentrations Low plasma selenium concentrations

Giver mælk kræft?

- Der er sandsynligvis en beskyttende effekt ifht kræft i tyk- og endetarm
- Det skyldes sandsynligvis mælks indhold af calcium

2017	DIET, NUTRITION, PHYSICAL ACTIVITY AND COLORECTAL CANCER		
		DECREASES RISK	INCREASES RISK
STRONG EVIDENCE	Convincing	Physical activity[1,2]	Processed meat[3] Alcoholic drinks[4] Body fatness[5] Adult attained height[6]
	Probable	Wholegrains Foods containing Dairy products[8] Calcium supplements[9]	Red meat[10]

Giver mælk kræft?

- Det er **ikke videnskabeligt belæg** for, at mælk skulle øge risikoen for brystkræft og kræft i æggestokkene eller andre kræftformer!!!
- Ej heller belæg for at mælk er skadeligt for kræftpatienter.

MYTE

KAFFE ER USUNDT

Er kaffe godt for helbredet?

Vidensråd for Forebyggelse, 2012

Er kaffe godt for helbredet?

Kræft:

- Godt: Regelmæssig kaffedrikning ser ud til at have en beskyttende virkning i forhold til kræft i lever, mundhule, svælg, livmoder samt tyk- og endetarm, og øger ikke risikoen for kræft i bygspytkirtel og nyrer

- Dårligt: Kaffe i meget store mængder kan muligvis øge risikoen for lunge- eller blærekræft, hvis man samtidig er ryger

Vidensråd for Forebyggelse, 2012

Ultra-processed food

Even more evidence links highly processed food to a greater risk of cancer and death

A pair of studies suggest that a diet high in ultra-processed food raises one's risk of colorectal cancer and mortality overall. They're not the first to find that correlation.

NOVA klassifikation

Gruppering efter industriel forarbejdning, gruppe 4:

ULTRA-PROCESSEREDE FØDEVARER

Færdigretter
Morgenmadsprodukter
Pølser og andet forarbejdet kød
Slik
Kiks og kager
Chips, salte snacks
Sodavand, frugt juice
Cacaomælk og andre mælkedrikke
Industriel Pizza
Margarine
Sovse, dressinger
Industrielle desserter

AARSTIDERNE

MÅLTIDSKASSER FRUGT, GRØNT OG MERE ARRANGEMENTER

1 stk. seitan pølser 4 stk.

HOLDBARHED
60 dage

LAND
ES

PRODUCENT

INGREDIENSER

Vand, Seitan* (**Hvedegluten***), Solsikkeolie*, Tofu* (Vand, **Sojabønner***, Koagulat*), Ølgær* (Hvede*), Krydderier* (Selleri*), Havsalt*, Majsstivelse*, Fortykningsmiddel* (Xanthangummi), Røget salt (Salt, rødbeder), Fortykningsmiddel (Carrageenate), Emulgator, **Sojalecithin**

Økologisk*, **Allergen**

NÆRINGSINDHOLD

Energi	1222 Kj
Energi	292 kcal
Fedt	18,8 g
heraf mættede fedtsyrer	2,3 g
Kulhydrat	5,2 g
heraf sukkerarter	1,1 g
Protein	25,4 g
Salt	1,8 g

Nye og populære produkter møder hård kritik: 'Fyldt med tilsætningsstoffer'

Ultra-processerede fødevarer

Schnabel et al. JAMA Inter Med, 2019; Srour et al. JAMA Inter Med 2019

Indeholder ingredienser, der sjældent eller aldrig bruges i et almindeligt køkken:
høj fruktose majs syrup, hydrogenerede olier, hydroliseret protein,
farvestoffer, aromaer, emulgatorer, sødestoffer, fortykkelsesmidler…..

Øger risikoen for en høj indtagelse af sukker, salt, mættede fedtstoffer, forarbejdet kød, sukkerholdige drikkevarer og nedsat indtag af fibre

Selv efter justering for kosten, fandtes øget risiko for dødelighed, fedme, hypertension, Type2 diabetes

De bedste råd til ”raske” kræftpatienter/ forebyggelse

- Undgå at blive overvægtig
- Dyrk motion
- Drik maks. 10 (7) genstande alkohol om ugen
- Spis mindst 75 gram fuldkorn om dagen – det bliver ikke mere sundt end fuldkornsrugbrød!
- Spis maks. 500 gram rødt kød om ugen – undgå det forarbejdede kød
- Spis 600 gram varieret frugt og grøntsager om dagen

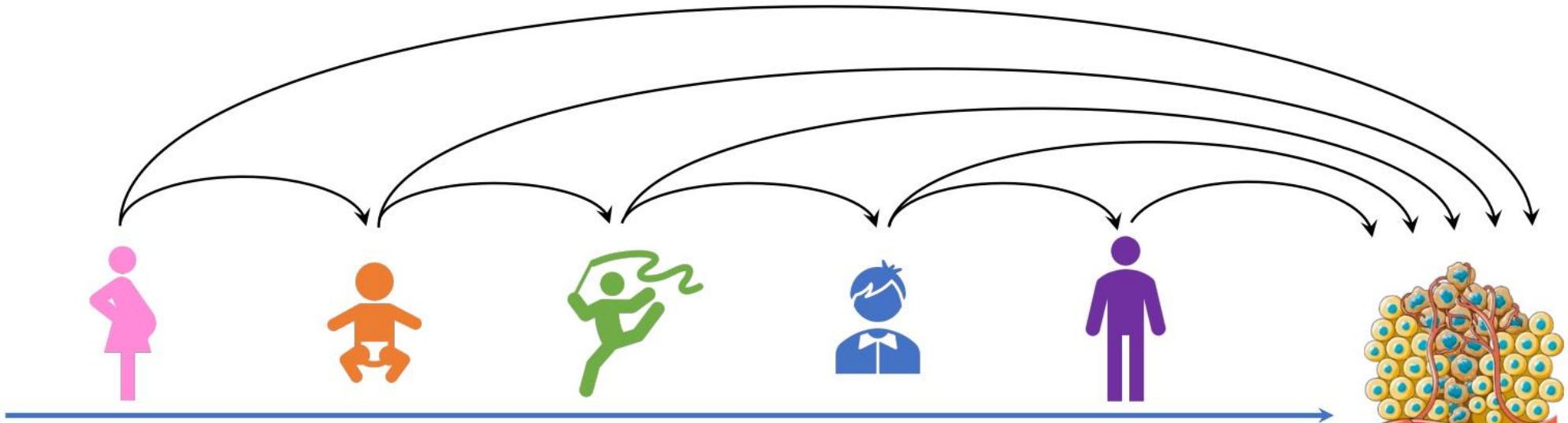
Microbiome-driven effects…

- Include microbiome features in the interplay with the individual diet and cancer development
- Improve prevention and cancer treatment
- Define a healthy microbiome
- The microbiome is shaped primarily by the environment and cohabitation
- Microbiota patterns associated to health determined by healthy diet, not smoking, living in a green and unpolluted area.

GUT MICROBES JOIN THE FIGHT AGAINST CANCER

A life course perspective…

Bever et al. Journal of the National Cancer Institute 2022.



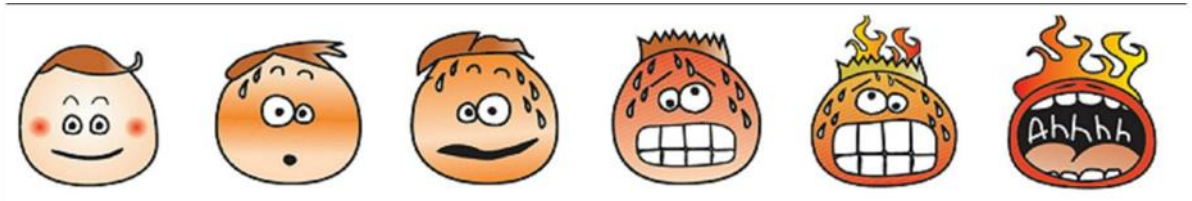
Gestation	Infancy	Childhood	Adolescence	Adulthood
Paternal and maternal age, nutrition, lifestyle Prenatal care	Breastmilk or formula feeding Perinatal factors	Growth Diet and lifestyle	Age at menarche Pubertal development Diet and lifestyle	Cancer screening Diet and lifestyle Chronic diseases Occupational factors

At every stage

Anthropometrics | Infection | Medication | Sleep | Stress and mental health | Health care | Pollution

Det vigtigste råd

Vær kritisk!!!



Alle kan få kræft!!!

SAMFUND

Uanset hvor sundt du lever: Det er sort uheld, når kræften rammer

De fleste tilfælde af kræft skyldes hverken arv eller livsstil. Foto: Bax Lindhardt / Scanpix Denmark

Måske tror du, du kan holde kræften væk ved at lægge smøgerne på hylden eller smøre solcreme på huden. Men de fleste kræftsygdomme er helt tilfældige.

Alle kan få kræft!!!

Forebyggelse (også efter diagnosen) handler om at mindske sandsynligheden for, at det tilfældige sker…

TAK FOR OPMÆRKSOMHEDEN