



Even geduld...onze online sessie start vrijdag 26 maart om 12:30 uur. Je kan je alvast aanmelden, vul het formulier in door onderstaande link over te nemen of de qr-code te scannen.

<https://forms.office.com/r/AXBt8Ka681>

# Practopics-Plus

Dr Tom Van Cann: “Supplementaire geneesmiddelen” en interacties in de medische oncologie

Dr Lynn Rutsaert: Stijgende lymfocytose, wanneer en hoe actie voeren?

[Jermi et al.: Scientific Reports](#) volume 9, Article number: 5078 (2019)

Complementary medicine	Current users (N = 60)
<b>Biologically based</b>	
Green tea*	21 (35)
Herbal tea**	21 (35)
Dietary supplements	16 (27)
Herbal medicine***	16 (27)
Aromatherapy	8 (13)
Omega 3	1 (2)
<b>Non-biologically based</b>	
Homeopathy	16 (27)
Traditional healer	11 (18)
Acupuncture	6 (10)
Lymphatic drainage	5 (8)
Naturopathy	4 (7)
Tai chi	4 (7)
Osteopathy	4 (7)
Therapeutic massage	4 (7)
Reflexology	3 (5)
Hypnosis	3 (5)
Meditation	3 (5)
Yoga	3 (5)
Shiatsu	3 (5)
Others	23 (38)
Total	175

Results are expressed as number of participants (percentage). The total represents the number of uses of complementary medicine (CM) types combined. Only biologically based CM purchased for medical purposes were included.

\*Green tea: tea made from the cured leaves of the tea tree (*Camellia sinensis*).

\*\*Herbal tea: infusions, decoctions, or macerations of leaves, flowers, fruits, stems, seeds, or roots from plants other than *Camellia sinensis*.

\*\*\*Herbal medicine: any herbal CM other than tea or herbal teas (e.g. dry extracts as pills or capsules, tinctures, *Viscum album* injections, etc.).

# Figure 4

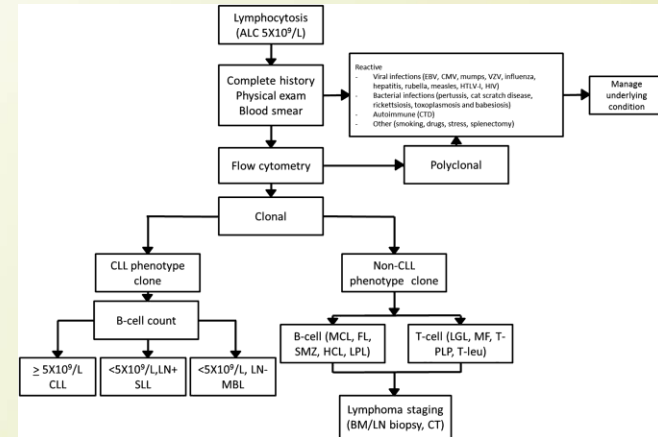
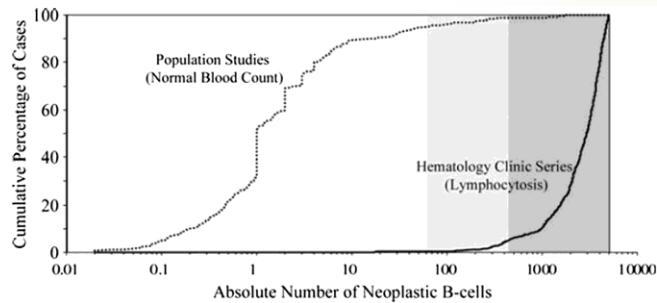
From: Complementary medicine use during cancer treatment and potential herb-drug interactions from a cross-sectional study in an academic centre

	<i>Allium sativum</i>	<i>Aronia melanocarpa</i>	<i>Boswellia</i> spp.	<i>Camellia sinensis</i>	<i>Cimicifuga racemosa</i>	<i>Citrus</i> spp.**	<i>Curcuma longa</i> *	<i>Echinacea</i> spp.	<i>Foeniculum vulgare</i>	<i>Ginkgo biloba</i>	<i>Glycyrrhiza glabra</i>	<i>Glycine max</i>	<i>Hydrastis canadensis</i>	<i>Hypericum perforatum</i> **	<i>Lycium</i> spp.	<i>Matricaria recutita</i>	<i>Mentha piperita</i>	<i>Oenothera biennis</i>	<i>Panax</i> spp.	<i>Piper methysticum</i>	<i>Piper nigrum</i>	<i>Serenoa repens</i>	<i>Silybum marianum</i> *	<i>Valeriana officinalis</i>	<i>Viscum album</i>	<i>Vitis vinifera</i>	<i>Zingiber officinale</i>	
<b>Cyclophosphamide</b> 2B6 2C9, 3A4, P-gp	2C9 2C19 3A4 P-gp	3A4	2C19 2C9 3A4	3A4 P-gp		2C19 2C9 3A4	2B6 2C9 3A4	2C19 2C9 3A4	3A4	2C19 2C9 3A4 P-gp	3A4		3A4	2B6 2C9 2E1 3A4 P-gp	2C9	2C9 3A4	2B6 2C9 3A4	2B6 2C9 3A4	2C9 2D6 3A4	3A4	3A4 P-gp	2C9 3A4	2C19 2C9 3A4 P-gp	2C19 2C9 3A4	3A4	3A4	2C19 2C9 3A4	
<b>Cisplatin</b> OCT2			2C9		?	2C9	2B6 2C9			2C9			2C9	2C9		2C9	2C9	2C9	2C9			2C9	2C9					
<b>Carboplatin</b> OCT2																												
<b>Oxaliplatin</b> OCT2																												
<b>5-Fluorouracil</b> DPD																				3A4								
<b>Paclitaxel</b> 2C8, (3A4)	3A4 P-gp		2C8 3A4	3A4 P-gp		3A4	3A4	3A4	3A4	3A4 P-gp	3A4		2C8 3A4	3A4 P-gp		3A4	3A4	3A4	3A4	3A4	3A4 P-gp	3A4 P-gp	3A4	2C8 3A4	3A4	3A4	3A4	3A4 P-gp
<b>Docetaxel</b> 3A4, P-gp	3A4 P-gp		3A4	3A4 P-gp		3A4	3A4	3A4	3A4	3A4 P-gp	3A4		3A4	3A4 P-gp		3A4	3A4	3A4	3A4	3A4	3A4 P-gp	3A4 P-gp	3A4	3A4	3A4	3A4	3A4	3A4 P-gp
<b>Vinorelbine</b> 3A4	3A4		3A4	3A4		3A4	3A4	3A4	3A4	3A4	3A4		3A4	3A4		3A4	3A4	3A4	3A4	3A4	3A4	3A4	3A4	3A4	3A4	3A4	3A4	3A4
<b>Vincristine</b> 3A4	3A4 P-gp		3A4	3A4 P-gp		3A4	3A4	3A4	3A4	3A4 P-gp	3A4		3A4	3A4 P-gp		3A4	3A4	3A4	3A4	3A4	3A4 P-gp	3A4 P-gp	3A4	3A4	3A4	3A4	3A4	3A4 P-gp
<b>Irinotecan</b> 3A4, UGT1A1	3A4 P-gp		3A4	3A4 P-gp		3A4	3A4	3A4	3A4	3A4 P-gp	3A4		3A4	3A4 P-gp		3A4	3A4	3A4	3A4	3A4	3A4 P-gp	3A4	3A4	3A4	3A4	3A4	3A4	3A4 P-gp
<b>Etoposide</b> 3A4	2E1 3A4 P-gp		1A2 3A4	3A4 P-gp		1A2 3A4	1A2 3A4	1A2 3A4	3A4	1A2 3A4 P-gp	3A4		3A4	2E1 3A4 P-gp		1A2 2E1 3A4	1A22 E1 3A4	1A2 3A4	2E1 3A4	2E1 3A4 P-gp	3A4 Pg-P	3A4	3A4	3A4	3A4	3A4	3A4	1A2 2E1 3A4 P-gp
<b>Doxorubicin</b> (3A4?, P-gp?)	3A4 P-gp		2D6 3A4	3A4 P-gp		3A4	2D6 3A4	3A4	3A4	3A4	3A4		2D6 3A4	3A4 P-gp		2D6 3A4	3A4	2D6 3A4	2D6 3A4	3A4	3A4 P-gp	2D6 3A4	3A4	3A4	3A4	3A4	3A4	3A4
<b>Tamoxifen</b> 2D6, 3A4	2E1 3A4 P-gp	3A4	2C9 2D6 3A4	3A4 P-gp	2D6	2C9 3A4	1A2 2B6 2D6 2C9 3A4	1A2 2C9 3A4	3A4	2C9 3A4 1A2 P-gp	3A4	2C9	2D6 3A4	2C9 3A4 P-gp	2C9	2C9 2D6 3A4	2C9 2D6 3A4	1A2 2D6 2C9 3A4	2C9 2D6 2E1 3A4	2E1 3A4 P-gp	3A4 P-gp	2C9 2D6 3A4	2D6 2C9 3A4	2D6 2C9 3A4	3A4	1A2 3A4	2C9 2D6 3A4 P-gp	
<b>Letrozole</b> 2A6, (3A4)	3A4 P-gp	3A4	3A4		?	3A4	3A4	3A4	3A4	3A4	3A4		3A4	3A4		3A4	3A4	3A4		3A4	3A4	3A4	3A4		3A4	3A4	3A4	

= no expected interaction
  = theoretical interaction
  = potential clinical interaction
 \* = low clinical relevance
\*\* = possible or likely clinical relevance

Table of potential pharmacokinetic interactions between herbal medicines and anticancer agents. Properties of herbal medicines in metabolic/transport pathways: Red = inhibition, green = induction, violet = controversial in references (inhibition and/or induction), blue: metabolic/transporter pathway, italic blue = metabolic pathway leading to a major active metabolite; 3A4 = cytochrome P450 3A4 (etc.); P-gp = P-glycoprotein; OCT = organic cation transport; DPD = dihydropyrimidine dehydrogenase.

## Monoclonal B-cell lymphocytosis and early-stage chronic lymphocytic leukemia: diagnosis, natural history, and risk stratification



Paolo Strati, Tait D. Shanafelt, Monoclonal B-cell lymphocytosis and early-stage chronic lymphocytic leukemia: diagnosis, natural history, and risk stratification, *Blood*, 2015, Figure 1+2

# Supportive Medicine en Interacties in de Oncologie

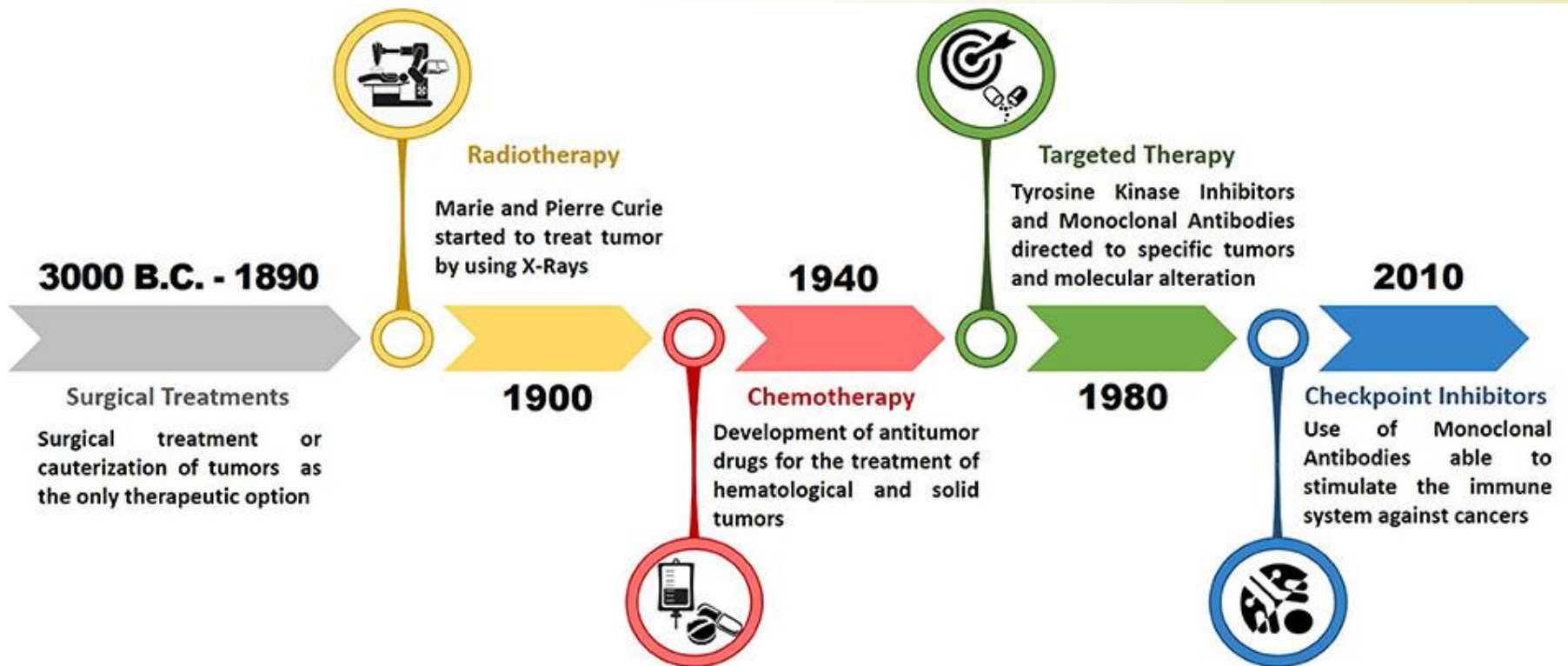
Practopics-Plus 26 maart 2021

Dr. Thomas van Cann  
Medisch Oncoloog

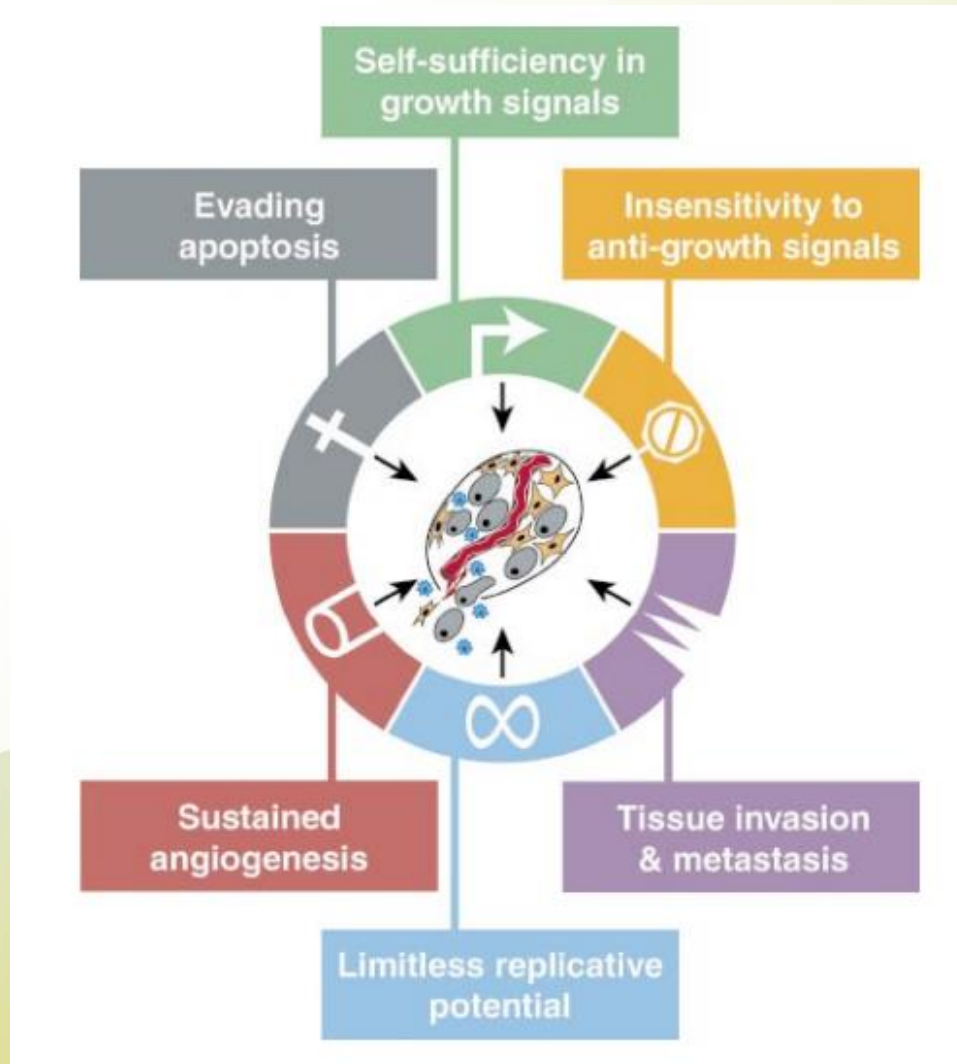
[Thomas.vancann@gza.be](mailto:Thomas.vancann@gza.be)

Tel: 03 443 37 37

# Vooruitgang in anti-tumorale therapie



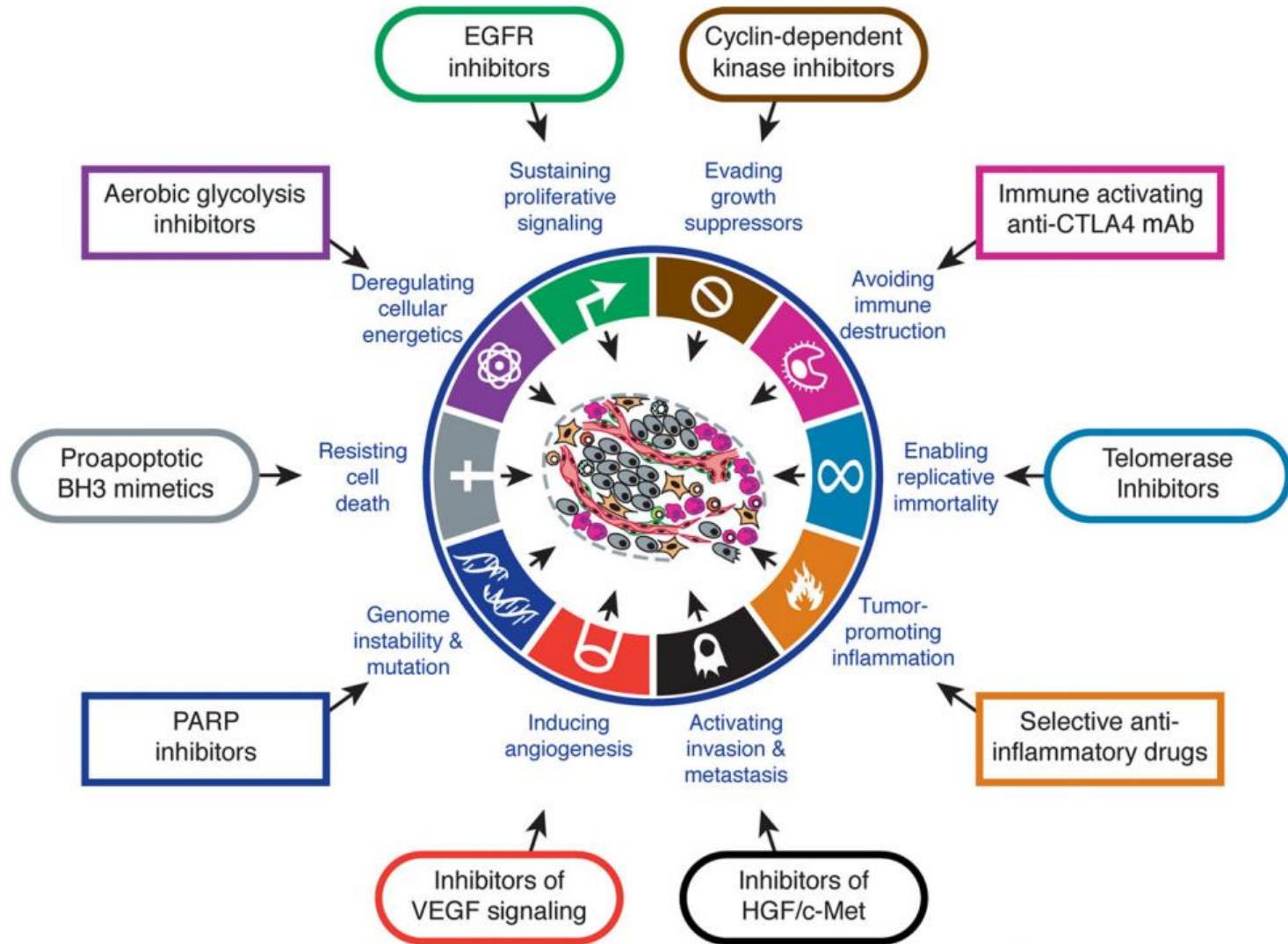
# Vooruitgang door beter inzicht in pathogenese van kanker



2000

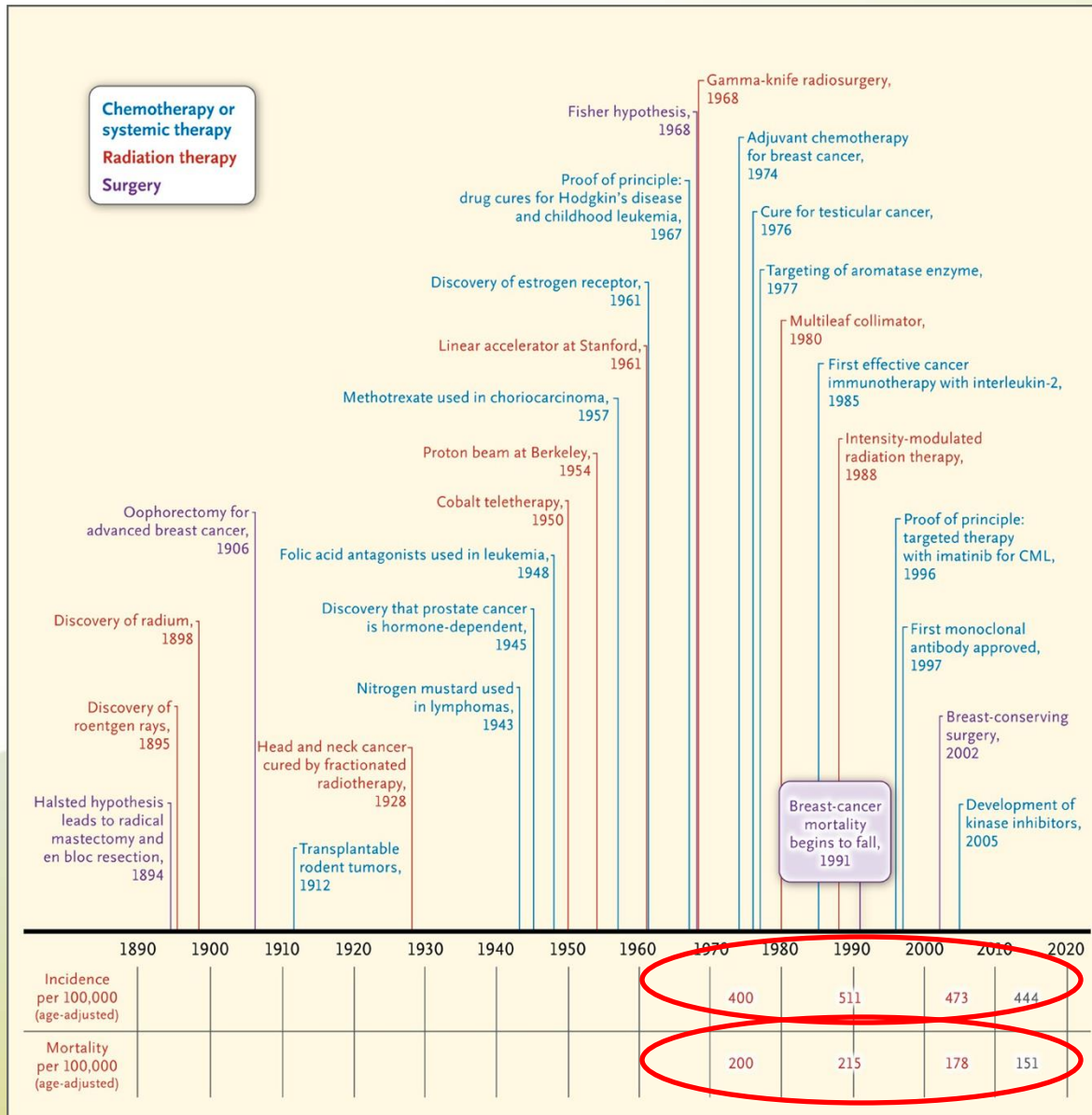


# Vooruitgang door beter inzicht in pathogenese van kanker



2011

# Vooruitgang in anti-tumorale therapie



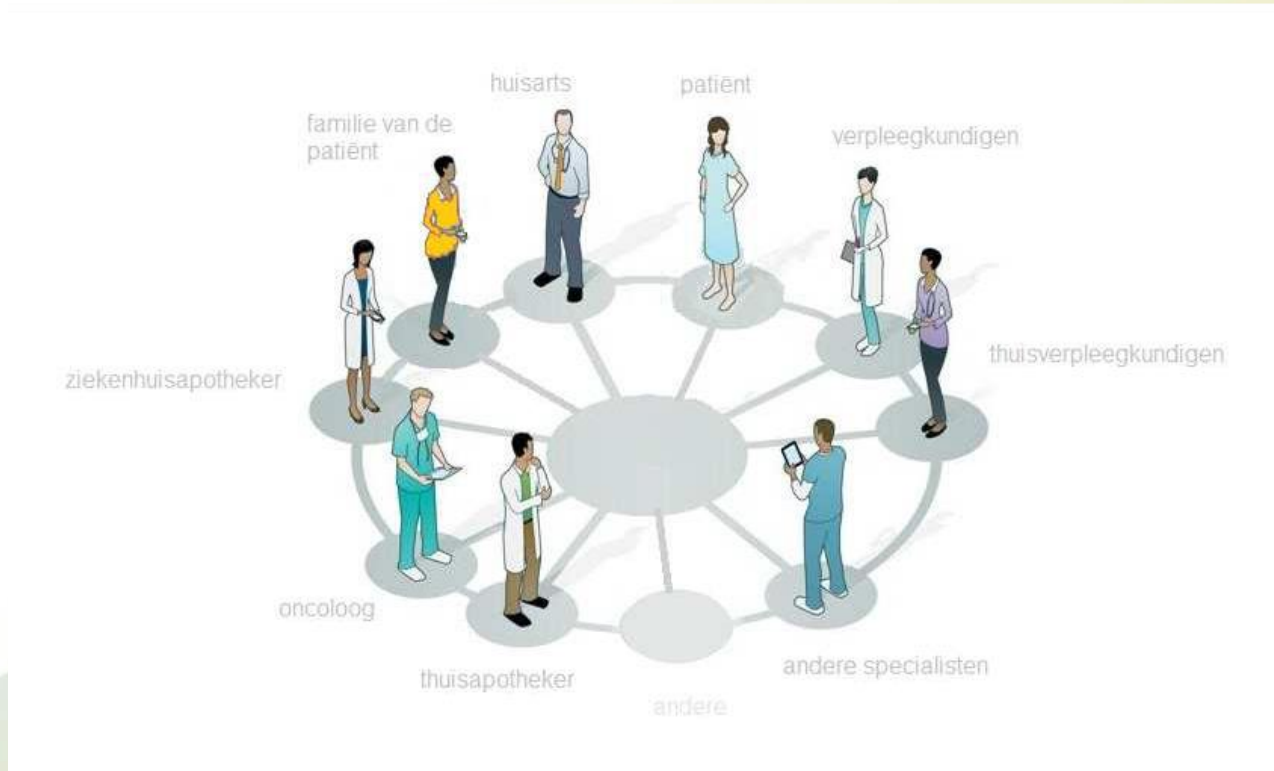
# Vooruitgang in anti-tumorale therapie → betere survival

**Figure 5** Invasive tumours (excl. non-melanoma skin cancer): 1-, 3-, 5- and 10-year relative survival (RS) \* by sex and region



\* The relative survival values are represented with 95% Confidence Intervals

# Vooruitgang in anti-tumorale therapie → Teamwork

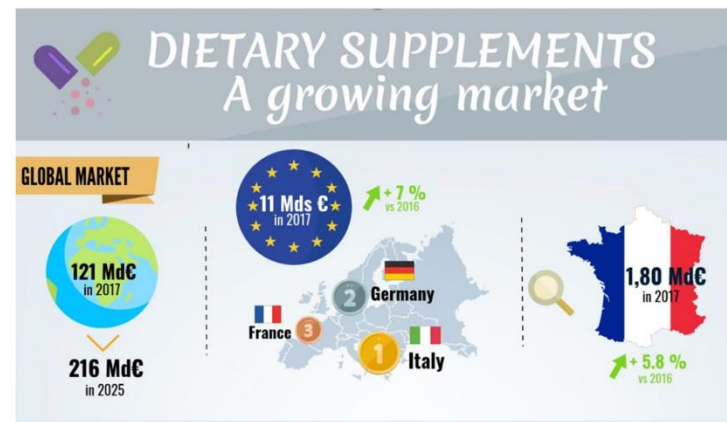


# Supportive medicine in de Oncologie

- 40-80% van kanker patiënten gebruikt één of meerdere vormen van supportieve therapie:
  - Schrik voor neveneffecten therapie
  - Onvoldoende perspectief met klassieke middelen
  - Onvoldoende vertrouwen in zorgverleners
  - Sociale druk
  - Media
  - “Ik heb gehoord dat...”
  - “Baat het niet, dan schaadt het niet”
  - ...



→ Business



Sources:  
Synadjet, Press conference, March 2018  
IQVIA, Consumer Health Global Market Insights, December 2017.  
Total dietary supplements market size worldwide from 2016 to 2022 (in billion U.S. dollars) - Statista, 2018  
CRN 2016 Annual Survey on Dietary Supplements

CULTURE  
NUTRITION  
Le média des tendances nutrition

GZA

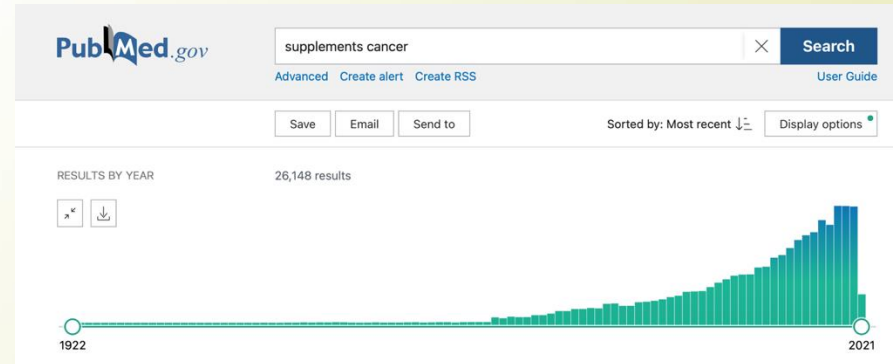
Ziekenhuizen  
GasthuisZusters Antwerpen  
Sint-Augustinus - Sint-Vincentius - Sint-Jozef

## Casussen

- Man, 70 jaar
  - Gemetastaseerd sarcoom
  - Diarree “tgv chemotherapie”
- Vrouw, 69 jaar
  - Borstcarcinoom
  - Familielid apotheker raadt gebruik anti-oxidanten aan tijdens radiotherapie
- Vrouw, 55 jaar
  - Nieuwe diagnose lymfoom
  - Vraagt: mag ik curcuma blijven nemen, want dat helpt kanker te voorkomen
- Vrouw 29 jaar
  - Terminaal stadium cervix carcinoom
  - Vraagt naar cannabisolie voor veralgemeende pijnklachten

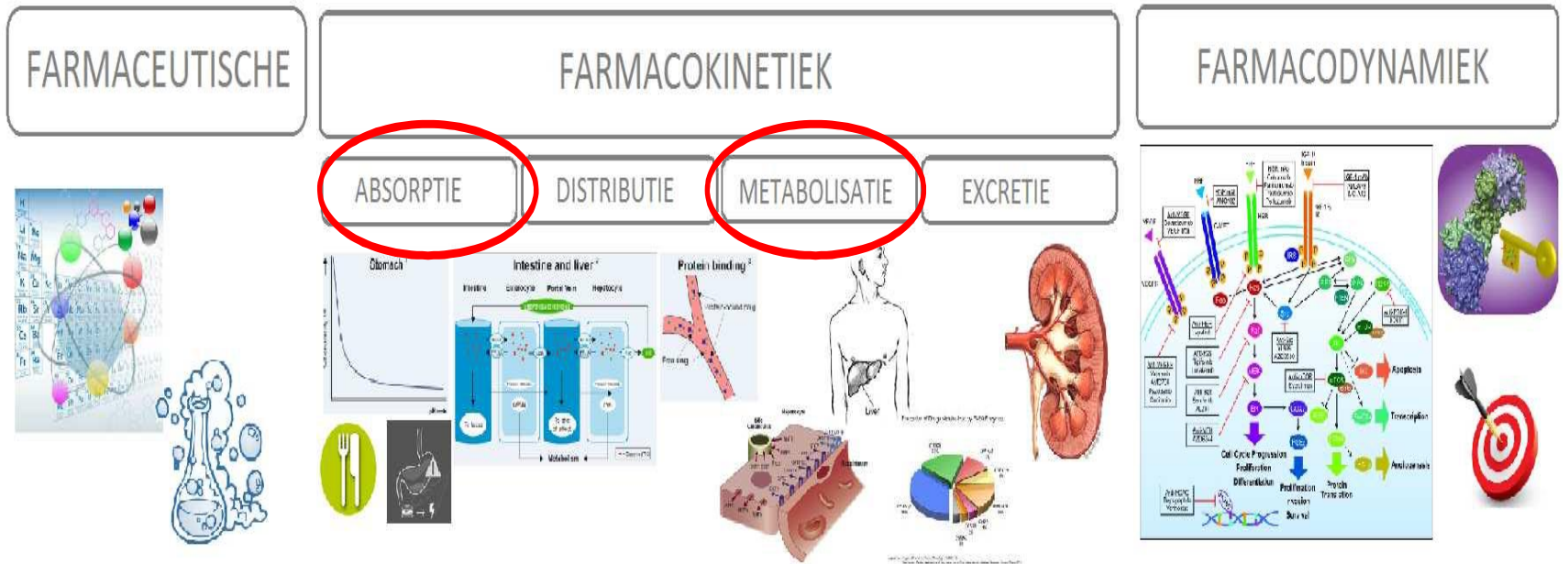
# Supportive medicine in de Oncologie: Bedenkingen

- **Geen “wij versus zij”**
- Er is wel evidentie...
- ... Maar vaak van suboptimale wetenschappelijke kwaliteit
  - Kleine reeksen
  - Selection bias
  - Publication bias
- Wetenschappelijke verantwoorde databanken
  - Up to Date
  - [Stichting tegen Kanker](#)
  - [MSKCC](#)



The figure is a screenshot of the Memorial Sloan Kettering Cancer Center website. The header includes the logo and name of the center, along with navigation links for 'Sloan Kettering Institute', 'Giving', 'Locations', 'Doctors', 'Appointments', and 'Contact'. Below the header, there are dropdown menus for 'Adult Patients', 'Child & Teen Patients', 'Healthcare Professionals', 'Research Scientists', 'About Us & News', and 'MyMSK'. The main content area shows a breadcrumb trail: 'For Adult Patients / Cancer Care / About Diagnosis & Treatment / Managing Symptoms & Side Effects / Integrative Medicine'. The current page is titled 'Integrative Medicine' and 'About Herbs, Botanicals & Other Products'.

# Supportive medicine in de Oncologie: Risico op interacties



- Chemische interacties
- Fysische interacties

- Belangrijke metabole 'sites' van interacties :
  - Cytochroom P450 enzymes
  - Pgp (= p-glycoproteine, =ABCB1)
  - BCRP (= breast cancer resistant protein)
  - OATP (organic anion transporting polypeptide)

- Additief effect
- Synergistisch effect
- Antagonisme

Mineralen

Sint Jans kruid, cannabis, pompelmoes, ...

Fyto-oestrogenen, anti-oxidanten, ..



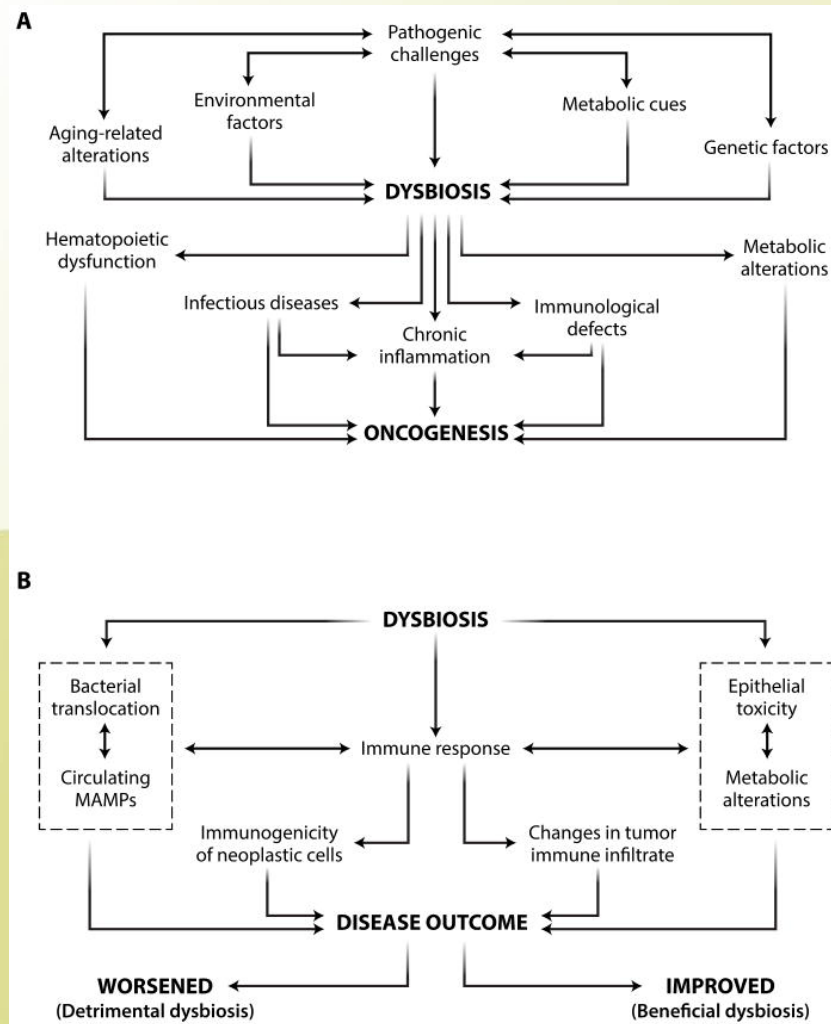
# Supportive medicine in de Oncologie

- **Probiotica**
- Mineralen
  - Magnesium
  - calcium
  - ijzer
- Vitamines
- Kruiden
  - Kurkuma
- Cannabis

Veel discussie en research naar rol microbiom bij

- ontstaan van kanker

- evolutie van kanker
- respons op therapie
- toxiciteit van therapie



## CAVE: “pro”biotische micro-organismen bij immuungecompromitteerden

### Contra-indicaties

- *Saccharomyces boulardii*: ernstig zieke patiënten en patiënten met immunodepressie (omwille van de mogelijkheid van systemische infectie met *S. boulardii* bij deze patiënten).

### Invasive *Saccharomyces* Infection: A Comprehensive Review

Adela Enache-Angoulvant<sup>1,2</sup> and Christophe Hennequin<sup>1,2</sup>

<sup>1</sup>Laboratoire de Parasitologie, Faculté de Médecine Pierre et Marie Curie, Université Pierre et Marie Curie, and <sup>2</sup>Service de Parasitologie, Hôpital Tenon, Paris, France

**Conclusion.** *Saccharomyces* organisms should now be added to the growing list of emerging fungal pathogens. Special caution should be taken regarding the use of *S. boulardii* probiotic preparations.

# Supportive medicine in de Oncologie

- Probiotica
- Mineralen
  - Magnesium
  - calcium
  - ijzer
- Vitamines
- Kruiden
  - Kurkuma
- Cannabis

# Mineralen

## - Magnesium

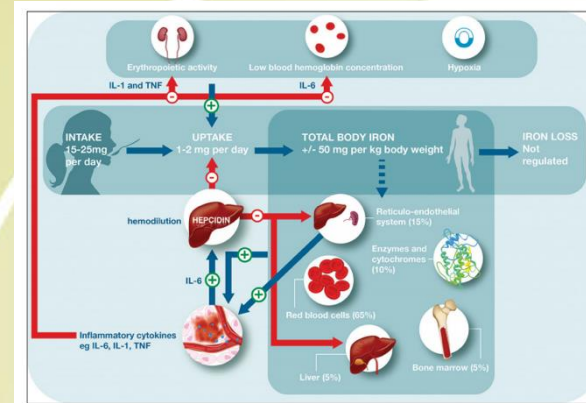
- Tegen spierkrampen
- CAVE: complexvorming, diarree, abdominale ongemakken

## - Calcium

- Botversterkend
- CAVE: complexvorming, hypercalciëmie, smaak

## - IJzer

- Tegen vermoeidheid, bloedarmoede
- CAVE: complexvorming, obstipatie, verkleurde stoelgang
- Verminderde orale absorptie bij patiënten met kanker



# Supportive medicine in de Oncologie

- Probiotica
- Mineralen
  - Magnesium
  - calcium
  - ijzer
- **Vitamines**
- Kruiden
  - Kurkuma
- Cannabis

# Vitamines



# Vitamines: pitfalls

- Vaak multipreparaten
  - Wat zit er juist in??



## Samenstelling:

### Samenstelling per tablet

	per tablet	% R.I.*
Paullinia cupana extr.	150 mg	---
Panax ginseng extr.	50 mg	---
Vitamine B1	1,1 mg	100 %
Vitamine B2	1,4 mg	100 %
Vitamine B3	16 mg	100 %
Vitamine B5	6 mg	100 %
Vitamine B6	1,4 mg	100 %
Vitamine B12	2,5 mg	100 %
Biotine	50 mg	100 %
Foliumzuur	200 mg	100 %
Magnesium	150 mg	40 %
IJzer	14 mg	100 %

## DAVITAMON More Energy 3-in-1

### Wat doet Davitamon More Energy 3-in-1?

Davitamon More Energy 3-in-1 is goed voor:

- Je energiever te voelen<sup>1</sup>
- Je vermoeidheid te verminderen<sup>2</sup>
- Je mentale en fysieke energieniveau te ondersteunen<sup>3</sup>

### Gebruik

Neem 1 tablet 's morgens. De aanbevolen dagelijkse dosis niet overschrijden. Raadpleeg uw arts of apotheker bij gelijktijdig gebruik van antidiabetische behandeling. Bevat cafeïne (15 mg/tablet). Niet aanbevolen voor kinderen en zwangere vrouwen. Voedingssupplementen kunnen geen gevarieerde en evenwichtige voeding vervangen, noch een gezonde levensstijl.

### Ingrediënten

Vulstoffen/Agents de charge: microkristallijne cellulose/cellulose microcristalline, calciumcarbonaat/carbonate de calcium; magnesiumoxide/oxide de magnésium (14 %); guarana-extract/extrait de guarana (Paullinia cupana) (8,5 %); stabilisator/stabilisateur: hydroxypropylmethylcellulose/hydroxypropylméthylcellulose; ijzerdifosfaat/diphosphate de fer (3,2 %), ginsengextract/extrait de ginseng (Panax ginseng) (2,8 %), anti-klontermiddelen/anti-agglomérants: magnesiumzouten van vetzuren/sels de magnésium d'acides gras, vernet natriumcarboxymethylcellulose/carboxyméthylcellulose de sodium réticulé, siliciumdioxide/dioxyde de silice, nicotinamide (1,1 %), kleurstof/colorant: ijzeroxide (rood)/oxyde de fer (rouge), ijzeroxide (geel)/oxyde de fer (jaune); pantotheenzuur/acide pantothénique (0,5 %), thiaminemononitrat/mononitrate de thiamine (0,3 %), cyanocobalamine (0,2%), pyridoxinehydrochloride/hydrochlorure de pyridoxine (0,1 %), riboflavine (0,1 %), foliumzuur/acide folique (0,01 %), biotine (0,003 %).

Voedingssupplement met natuurlijk guarana-extract, vitamines en mineralen



# Vitamines: pitfalls

- Vaak multipreparaten
  - Wat zit er juist in??
- CAVE suprathérapeutische doses

	ADH >18 jaar	ADH >18 jaar	Aanvaardbare veilige inname per dag
Vit A (µg/dag) <sup>1</sup>	800	1000	2500-3000
Vit B <sub>1</sub> (mg/dag)	1,1	1,1	
Vit B <sub>2</sub> (mg/dag)*	1.1	1.5	
Vit B <sub>3</sub> / Niacine (mg NE/dag) <sup>2*</sup>	13 (18-50 jaar) 17 (>51 jaar)	17	Vitamine B <sub>3</sub> komt in twee vormen voor: nicotinezuur en nicotamide. In eten, en in vrijwel alle supplementen zit bijna uitsluitend nicotamide. De bovengrens voor nicotamide is 900 mg/dag en voor nicotinezuur 10 mg/dag. Deze hoeveelheden zijn alleen realiseerbaar uit supplementen.
Pantotheenzuur (mg/dag)*	5	5	
Vit B <sub>6</sub> (mg/dag)*	1,5 (18-50 jaar) 1,8 (>50 jaar)	1,5 (18-50 jaar) 1,8 (>50 jaar)	Bij langdurig dagelijks gebruik van hooggedoseerde supplementen met vitamine B <sub>6</sub> (> 25 mg/dag) kunnen aandoeningen aan de zenuwen in de armen en benen ontstaan.
Foliumzuur (µg/dag) <sup>3</sup>	300	300	1000
Vit B <sub>12</sub> (µg/dag)	2,8		
Vit C (mg/dag)	70	2,8	
Vit D (µg/dag) <sup>4</sup>	2,5 (19-50 jaar) 5-10 (51-70 jaar) 12,5-15 (>70 jaar)	70	2000
Vit E (mg/dag) <sup>5</sup>	9,9 (19-22 jaar) 9,3 (22-50 jaar) 8,7 (50-65 jaar) 8,3 (>65 jaar)	2,5 (19-50 jaar) 5-10 (51-70 jaar) 12.5-15 (>70 jaar)	50
Ca (mg/dag)	1000 (19-50 jaar) 1100 (51-70 jaar) 1200 (>70 jaar)	13 (19-22 jaar) 11.8 (22-50 jaar) 10,7 (50-65 jaar) 9,4 >65 jaar	300
Mg (mg/dag)	250-300	1000 (19-50 jaar) 1100 (51-70 jaar) 1200 (>70 jaar)	2500
Zn (mg/dag)	10	300-350	250 (in de vorm van tabletten)
Se (mg/dag)	50-150	10	25
		50-150	300

# Vitamines: pitfalls

- Vaak multipreparaten
  - Wat zit er juist in??
- CAVE suprathérapeutische doses

[← Terug naar het overzicht](#)

## D-Cure Forte 100.000 UI 3 ampoules

★★★★★  
1 Reviews

+67  
RedPoints

Geneesmiddelen > Vitaminen & mineralen



Op voorraad ? € 7,50  
€ 6,75



- ✓ Klanten geven Farmaline een **9,4/10**
- ✓ **Gratis expresslevering** vanaf €39
- ✓ **Discrete afhandeling** in +3000 afhaalpunten
- ✓ **Groot assortiment**, kleine prijzen



**Nature's Plus, Ultra-C, 2,000 mg, 90 Tablets**  
By Nature's Plus  
★★★★★ 60 Reviews | 0 & 0

**Our Price: €18.60**  
€0.21/Count

Quantity:

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- Expiration Date: September 2024
- Date First Available: April 2010
- Shipping Weight: 0.35 kg
- Product Code: NAP-02221
- UPC Code: 097467022218
- Package Quantity: 90 Count
- Dimensions: 6.4 x 6.4 x 12.7 cm, 0.29 kg

**Product Rank:**  
#72 in Ascorbic Acid  
#294 in Vitamin C

**Combo Offer: Save €2.81**

Supplement Facts		
Serving Size 1 Sustained Release Tablet		
	Amount Per Serving	% Daily Value
Vitamin C (as ascorbic acid)	2000 mg	2222%
Rose Hips (Rosa canina fruit)	200 mg	†
†Daily Value not established.		
Other ingredients: Stearic acid, microcrystalline cellulose, hydroxypropyl methylcellulose, rose hips, silica, magnesium stearate, carob and pharmaceutical glaze.		

# Vitamines: pitfalls

- Vaak multipreparaten
  - Wat zit er juist in??
- CAVE supratherapeutische doses

## Vitamin Toxicity Symptoms

<b>Vitamin D</b>	<b>Vitamin A</b>	<b>Vitamin B<sub>6</sub></b>	<b>Vitamin C</b>	
Abdominal cramps, nausea, vomiting, calcium crystal deposits that affect liver, kidney, lungs (calcium salts are irreversible)	Water in the brain, vomiting, tiredness, constipation, bone pain, brittle nails, hair loss, birth defects	Mobility issues such as tingling and numbness in the hands and feet, trouble walking, trouble grasping small objects (difficult to reverse symptoms)	Kidney and gallbladder stones in those prone, but normally it just makes really expensive urine	
<b>Folate</b>	<b>Vitamin B<sub>12</sub></b>	<b>Vitamin K</b>	<b>Niacin</b>	<b>Vitamin E</b>
Pernicious anemia, kidney damage	Diarrhea, swelling, blood clots in legs	Anemia in adults, death in infants	Flushed skin, nausea, diarrhea, liver damage	Headaches, tiredness, double vision, diarrhea, Vitamin A, D, K deficiency

# Supportive medicine in de Oncologie

- Probiotica
- Mineralen
  - Magnesium
  - calcium
  - ijzer
- Vitamines
- Kruiden
  - Kurkuma
- Cannabis



# Kruiden: er is evidentie: bespreek met patiënt

The screenshot shows the Memorial Sloan Kettering Cancer Center website. The main navigation bar includes links for Sloan Kettering Institute, Giving, Locations, Doctors, Appointments, Contact, and a search bar. Below this, there are dropdown menus for Adult Patients, Child & Teen Patients, Healthcare Professionals, Research Scientists, About Us & News, MyMSK, and Donate now. The page title is 'About Herbs, Botanicals & Other Products'. A sidebar on the left lists 'Integrative Medicine' with sub-links: 'Developing Your Personal Care Plan', 'Integrative Medicine at Home Membership Program', 'Therapies, Classes & Workshops', 'About Herbs, Botanicals & Other Products', 'Overview', 'Search About Herbs', 'Herbs, Botanicals & Other Products: FAQs', 'About Herbs App', and 'Email Us'. The main content area features a large image of various capsules and pills, a 'VIDEO' section with a play button, and a text block stating: 'The majority of cancer patients use complementary therapies such as herbs and dietary supplements. Although figures differ, surveys indicate that as many as 60 percent of people with cancer take two or more dietary supplements daily.' Below the text is a 'Video Details >' link.



# Kruiden: praktisch

Vrouw, 55 jaar

- Nieuwe diagnose lymfoom
- Vraagt: mag ik curcuma blijven nemen, want dat helpt kanker te voorkomen

Turmeric



#### Common Names

- Indian saffron
- Curcumin
- Jiang huang

## Wetenschap:

- Om deze kanker te voorkomen: niet zinvol: nieuwe diagnose ontstaan terwijl al supplement neemt
- Tijdens therapie: best niet
  - CYP3A4
  - Mogelijks interactie met doxorubicine en cyclofosfamide (CHOP schema)
  - Bloedverdunnend effect
  - (fyto-oestrogeen effect (CAVE: bij gynaecologische of borst tumoren)

# Kruiden: praktisch

Man, 70 jaar

- Gemetastaseerd sarcoom
- Diarree “tgv chemotherapie”



--> Geen 3 pillen maar 6 pillen per dag voor extra effect

“100 % gevriesdroogde BIO waterkers

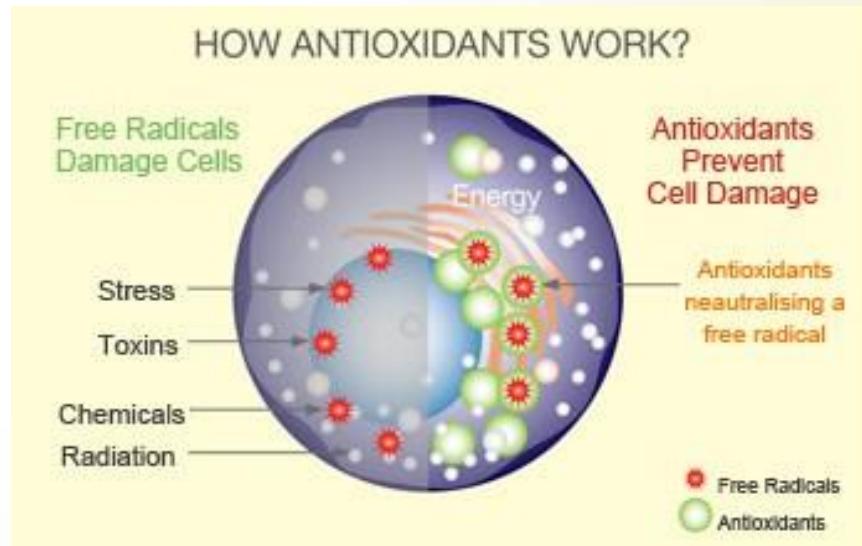
## **BESTANDELEN:**

koud gevriesdroogde waterkers\* (Nasturtium officinale), in zuiver bronwater geteeld. \* biologische teelt. Controle BE-BIO-002.

Wheat grass is a natural source of vitamins and minerals including vitamins A, C, E, K and B-complex, as well as iron, calcium, magnesium, and selenium. It also contains chlorophyll, amino acids, bioflavonoids such as apigenin, and phenolic compounds <sup>(3) (9) (10) (11)</sup>. Some components may have antioxidant effects, as increases in glutathione and vitamin C levels have been noted <sup>(2) (4)</sup>.



# Anti-oxidanten



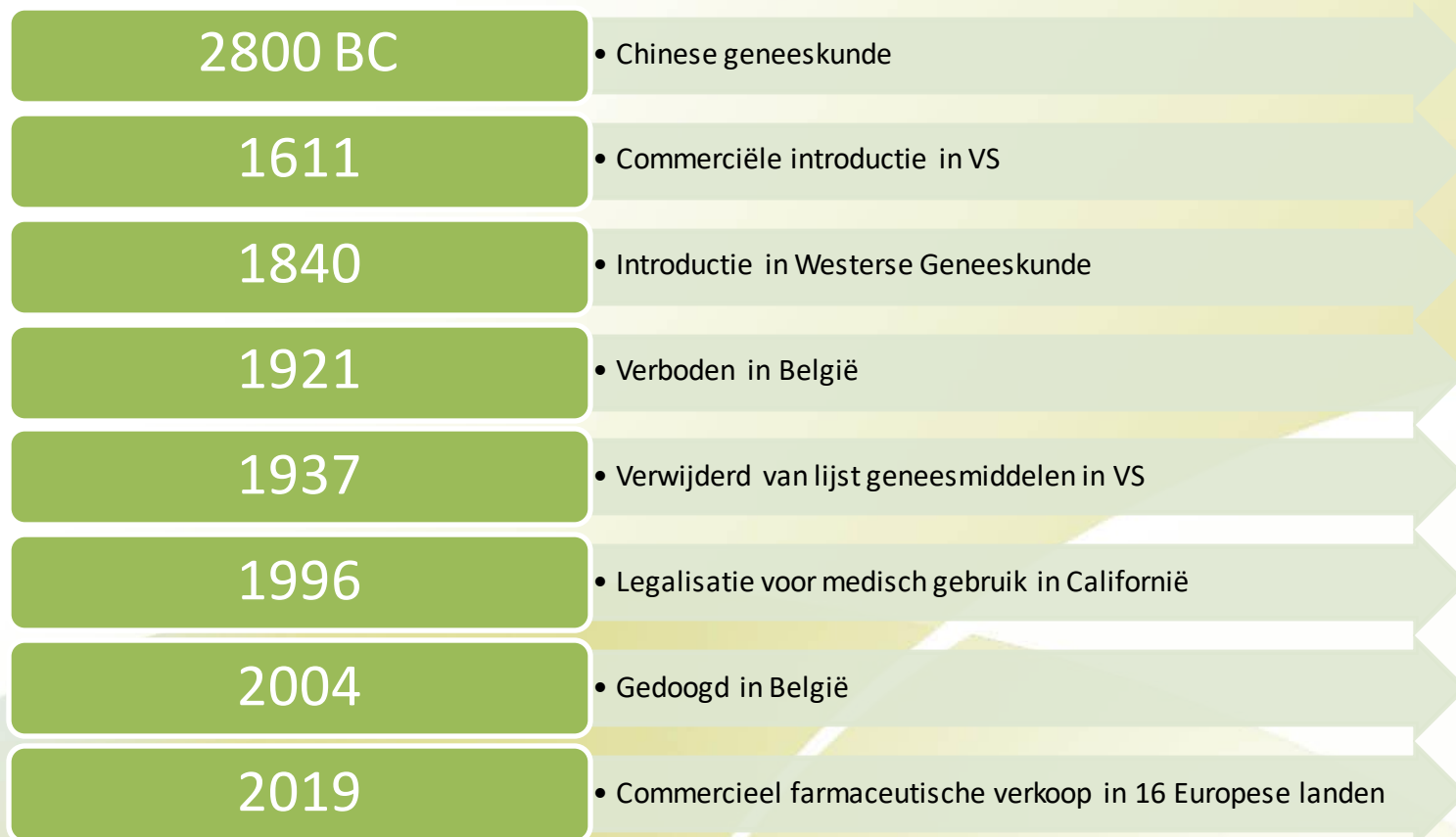
## Can I take antioxidants to prevent the side effects of cancer therapies?

There are prescription drugs that act as antioxidants to help protect against the adverse effects of cancer therapies. The precise mechanism and the side effects of these drugs have been thoroughly examined. However, very few antioxidant dietary supplements have been studied for their safety and usefulness. Current information about the use of these products is confusing. Some think they help kill cancer cells or protect healthy cells from the damage caused by chemotherapy drugs or radiation therapy. But antioxidant supplements may also make these treatments less effective. Until more is known, it is wise to avoid them during chemotherapy.

# Supportive medicine in de Oncologie

- Probiotica
- Mineralen
  - Magnesium
  - calcium
  - ijzer
- Vitamines
- Kruiden
  - Kurkuma
- Cannabis

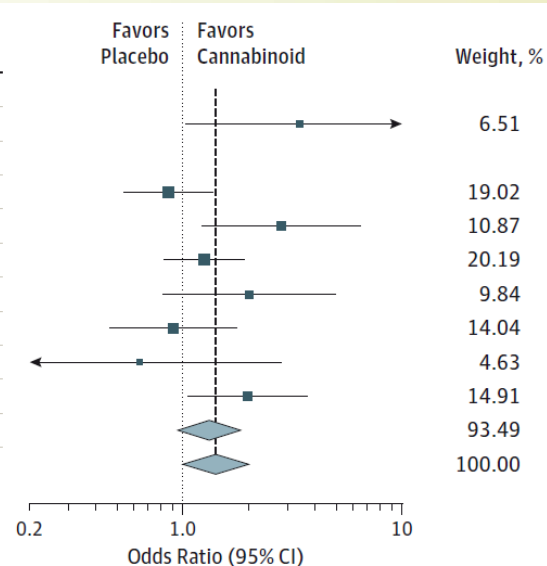
# Cannabis



# Cannabis

- In België enkel geïndiceerd voor spasticiteit, bij MS en chronische neuropathische pijn

Improvement in Pain With Cannabinoid vs Placebo by Study	Cannabinoid Events		Placebo Events		Odds Ratio (95% CI)
	No.	Total No.	No.	Total No.	
<b>Tetrahydrocannabinol (smoked)</b>					
Abrams et al, <sup>77</sup> 2007	13	25	6	25	3.43 (1.03-11.48)
<b>Nabiximols</b>					
GW Pharmaceuticals, <sup>22</sup> 2005	54	149	59	148	0.86 (0.54-1.37)
Johnson et al, <sup>69</sup> 2010	23	53	12	56	2.81 (1.22-6.50)
Langford et al, <sup>65</sup> 2013	84	167	77	172	1.25 (0.81-1.91)
Nurmikko et al, <sup>76</sup> 2007	16	63	9	62	2.00 (0.81-4.96)
Portenoy et al, <sup>67</sup> 2012	22	90	24	91	0.90 (0.46-1.76)
Selvarajah et al, <sup>70</sup> 2010	8	15	9	14	0.63 (0.14-2.82)
Serpell et al, <sup>88</sup> 2014	34	123	19	117	1.97 (1.05-3.70)
Subtotal $I^2 = 44.5\%$ , ( $P = .094$ )	241	660	209	660	1.32 (0.94-1.86)
Overall $I^2 = 47.6\%$ , ( $P = .064$ )	254	685	215	685	1.41 (0.99-2.00)



**R** Sativex (Almirall) **D**

delta-9-tetrahydrocannabinol 2,7 mg / 100 µl  
cannabidiol 2,5 mg / 100 µl

bucc. spray oplossing.

3 x 10 ml H.G. [€ 466]

(100 µl = 1 druk = 2,7 mg/2,5 mg; verdovend middel)

- Minder duidelijke evidentie bij kanker-gerelateerde pijn

# Cannabis

- Matige evidentie voor chemo-geïnduceerde nausea
  - **Recente Fase II klinische studie**
    - 81 patiënten, 72 evalueerbaar
    - “1 cycle of **1–4 self-titrated** capsules of oral THC 2.5 mg/CBD 2.5 mg (TN-TC11M) three times daily, from days –1 to 5 and 1 cycle of **matching placebo** in a crossover design, **then blinded patient preference for a third cycle**”
    - Complete response was improved from 14% to 25% (CI 1.12–2.79,  $P = 0.041$ ),
    - **83% of participants preferred cannabis** to placebo.
    - **31% experienced moderate or severe cannabinoid-related adverse events** such as sedation, dizziness, or disorientation

--> Gebruik van ondersteunende therapieën is een realiteit bij oncologische patiënten



Bespreek met patiënt  
en behandelend oncoloog

Er is evidentie..

# Besluit

--> Gebruik van ondersteunende therapieën is een realiteit bij oncologische patiënten



**Nood aan goede, onafhankelijke, gerandomiseerde, placebo gecontroleerde studies....**

# Besluit

--> Gebruik van ondersteunende therapieën is een realiteit bij oncologische patiënten

- ~~Baat het niet, schaadt het niet~~

	Probiotica	Mineralen	Zuivere vitaminesupplementen
<b>Chemotherapie</b>	NIET	“Ok”	“Ok”
<b>Immunotherapie</b>	Terughoudend	“Ok”	“Ok”
<b>Targeted therapy</b>	Niet als immuunsuppresserend CAVE: interacties	CAVE: interacties	CAVE: interacties
<b>Klinische studies</b>	<b>ALTIJD bespreken</b>		



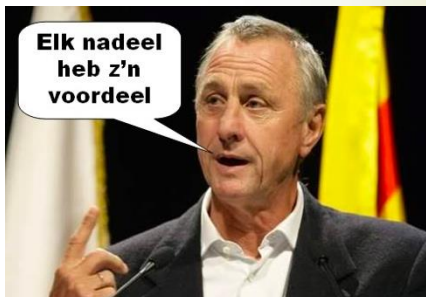


# Dank voor uw aandacht

Dr. Thomas van Cann  
Medisch Oncoloog

[Thomas.vancann@gza.be](mailto:Thomas.vancann@gza.be)

Tel: 03 443 37 37



# Vragen

## 1. Zijn probiotica als onschadelijk te beschouwen tijdens chemotherapie?

- Nee, maar risico is beperkt
- Ja, het zijn tenslotte probiotica
- Nee, het risico is veel te groot

## 2. Zijn fabrikanten van voedingssupplementen verplicht om exact te vermelden welke stoffen er in hun producten zitten en in welke hoeveelheden?

- Ja, want ze vallen onder de geneesmiddelen
- Nee, maar ze mogen geen valse gegevens vermelden
- Nee, er mag op staan wat ze willen

## 3. Is cannabisolie in België vrij verkrijgbaar en verhandelbaar?

- Ja
- Nee, enkel voor beperkte indicaties op doktersvoorschrift
- Nee, maar wel vrij verkrijgbaar op doktersvoorschrift

## 4. Is de biologische beschikbaarheid van orale ijzerpreparaten bij kanker patiënten hetzelfde als bij niet-kanker patiënten?

- Nee, hoger
- Nee, lager
- Ja



Q&A

Vragen kan u stellen in het vraag en antwoord gedeelte aan de rechterkant van het scherm. We behandelen ze op het einde van de sessie.

# Practopics Hematologie

Stijgende lymfocytose: wanneer actie ondernemen?

Dr. Lynn Rutsaert  
Hematoloog-intensivist

- Indolente aandoening uitgaande van mature B-cellen
- Genetische predispositie
- Meest prevalentie lymfoïde maligniteit
- 25-30% vd leukemie gevallen
- gemiddelde leeftijd bij diagnose 72j
- ♂ 2x zo vaak als ♀

# MBL < SLL < CLL

- MBL: pre-CLL
  - geen organomegalie, lymfadenopathie of cytopenie
  - Monoclonale populatie <  $5 \times 10^9/L$ 
    - <  $50/\mu L$  = low count
    - >  $2000/\mu L$  = high count
  - 15% >>> CLL / 7j
  - ↑ infectierisico
  - ↑ 2<sup>e</sup> maligniteit

# SLL variant

- Small lymphocytic lymphoma
- Clonale B-cel populatie  $< 5 \times 10^9/L$  + lymfadenopathie/splenomegalie of een massa met dezelfde B-cellen

- Leukemisch lymfocytair lymfoom
- Monoklonale B-cel populatie  $>5 \times 10^9/L$  in perifeer bloed of  $<5 \times 10^9/L$  + cytopenie
- Immuunfenotype (CD5, CD19, CD20, CD23)
- Gumprechtse schaduw



# Differentiaaldiagnose

**Table 24-1** Chronic B-cell lymphoproliferative disorders: immunophenotype

Disease	slg	CD20	CD5	CD23	CD10	CD103
Chronic lymphocytic leukemia	dim	dim	+	+	-	-
Lymphoplasmacytic lymphoma	+	+	-/+	-/+	-	-
Mantle cell lymphoma	+	+	+	-/dim	-	-
Nodal marginal zone lymphoma	+	+	-	-/+	-	-
Splenic marginal zone lymphoma	+	+	-/+	-/+	-	-/+
Follicular lymphoma	+	+	-	-/+	+/-	-
Hairy cell leukemia	+	+	-	-	-	+
B cell prolymphocytic leukemia	+	+	-/+	-	-	-

# Oppuntstelling

**Table 1. Baseline evaluation of patients with CLL**

Diagnostic test	General practice	Clinical trial
<b>Tests to establish the diagnosis</b> CBC and differential count Immunophenotyping of peripheral blood lymphocytes	Always Always	Always Always
<b>Assessment before treatment</b> History and physical, performance status CBC and differential count Marrow aspirate and biopsy Serum chemistry, serum immunoglobulin, and direct antiglobulin test Chest radiograph Infectious disease status	Always Always When clinically indicated (unclear cytopenia) Always Always Always	Always Always Desirable Always Always Always
<b>Additional tests before treatment</b> Molecular cytogenetics (FISH) for del(13q), del(11q), del(17p), add(12) in peripheral blood lymphocytes Conventional karyotyping in peripheral blood lymphocytes (with specific stimulation) TP53 mutation IGHV mutational status Serum $\beta_2$ -microglobulin CT scan of chest, abdomen, and pelvis MRI, PET scans Abdominal ultrasound†	Always NGI* Always Always Desirable NGI NGI Possible	Always Desirable Always Always Always Desirable NGI NGI

General practice is defined as the use of accepted treatment options for a CLL patient not enrolled on a clinical trial.

CBC, complete blood count; MRI, magnetic resonance imaging; NGI, not generally indicated; PET, positron emission tomography.

\*Conventional karyotyping in peripheral blood lymphocytes (with specific stimulation) may be useful before therapy, if established methodology is available.

†Used in some countries to monitor lymphadenopathy and organomegaly.

# Stadiëring

**Table 24-2** Clinical staging

Stage	Binet classification		Rai classification	
	Definition	Risk group	Stage	Definition
A	<3 lymphoid areas	Low	0	Lymphocytosis only
B	>3 lymphoid areas	Intermediate	I	Lymphadenopathy
			II	Hepato- or splenomegaly
C	Hemoglobin <10 g/dL or platelets <100 × 10 <sup>9</sup> /L	High	III	Hemoglobin <11 g/dL
			IV	Platelets <100 × 10 <sup>9</sup> /L

# Wanneer actie ondernemen?

# Behandelindicaties 1<sup>e</sup> lijn

**TABLE 4.** Indications for initiation of treatment.

High tumorload	<ul style="list-style-type: none"><li>• Rai 3-4 or Binet C</li></ul>
Disease progression	<ul style="list-style-type: none"><li>• Lymphocyte doubling time of less than 6 months</li><li>• Massive (&gt;6 cm below costal margin) or progressive or symptomatic splenomegaly</li><li>• Massive (&gt;10 cm) or progressive or symptomatic lymphadenopathy</li><li>• Progressive marrow failure leading to cytopenia</li><li>• Symptomatic functional extranodal disease</li></ul>
Auto-immune problems	<ul style="list-style-type: none"><li>• AIHA, AITP, PRCA poorly responsive to corticosteroids</li></ul>
Disease related problems	<ul style="list-style-type: none"><li>• 10% weight loss in 6 months</li><li>• Fatigue ( PS<math>\geq</math>2)</li><li>• Fever &gt;38°C for &gt;2 weeks without infection</li><li>• Night sweats &gt;1 month</li></ul>

*AIHA: immune mediated haemolytic anemia; AITP: immune mediated thrombocytopenia; PRCA: pure red cell aplasia; PS: performance status.*

# Low risk: Rai 0 / Binet A

- Watchfull waiting
- Behandelen in vroeg stadium levert geen overlevingsvoordeel
- Vaccinatie

# Intermediate risk: Rai I-II/Binet B

- Start therapie of monitoring tot tekens van progressie/symptomatische ziekte
- actieve ziekte = minstens 1 van
  - Progressief beenmergfalen (Hb <10, trc <100)
  - Massieve/progressieve/symptomatische splenomegalie
  - Massieve/progressieve/symptomatische adenopathie
  - ↑ lymfocytose ≥50% in 2m of LDT < 6m
  - Auto-immune complicaties
  - Symptomatische/functionele extranodale aantasting
  - B-symptomen (↓G, vermoeidheid, koorts, nachtzweeten)

# High risk: Rai III-IV/Binet C

- Start therapie



# Prognostische scores

**Table 24-3** CLL-International Prognostic Index

Variable	Adverse factor	Score
Age	>65 years	1
Clinical stage	Binet B/C or Rai I-IV	1
17p13 deletion and/or TP53 mutation	Deleted and/or mutated	4
IGHV mutation status	Unmutated	2
B2M level (mg/L)	>3.5 mg/L	2

Prognostic scores range from 0–10 and identify 4 risk groups with significantly different rates of OS at 5 years ( $p < 0.001$  for all): low-risk patients (score 0–1), 93.2% (95% CI 90.5–96.0); intermediate risk (score 2–3), 79.3% (95% CI 75.5–83.2); high risk (score 4–6), 63.3% (95% CI 57.9–68.8); very high risk (score 7–10), 23.3% (95% CI 12.5–34.1).

- Del(13q)
- Trisomie 12
- Del(11q)
- Del(17p)
- *TP53* mutaties
- *NOTCH1*
- *SF3B1*

# Responsevaluatie

**Table 4. Response definition after treatment of CLL patients**

Group	Parameter	CR	PR	PD	SD
A	Lymph nodes	None $\geq 1.5$ cm	Decrease $\geq 50\%$ (from baseline)*	Increase $\geq 50\%$ from baseline or from response	Change of $-49\%$ to $+49\%$
	Liver and/or spleen size†	Spleen size $< 13$ cm; liver size normal	Decrease $\geq 50\%$ (from baseline)	Increase $\geq 50\%$ from baseline or from response	Change of $-49\%$ to $+49\%$
	Constitutional symptoms	None	Any	Any	Any
	Circulating lymphocyte count	Normal	Decrease $\geq 50\%$ from baseline	Increase $\geq 50\%$ over baseline	Change of $-49\%$ to $+49\%$
B	Platelet count	$\geq 100 \times 10^9/L$	$\geq 100 \times 10^9/L$ or increase $\geq 50\%$ over baseline	Decrease of $\geq 50\%$ from baseline secondary to CLL	Change of $-49$ to $+49\%$
	Hemoglobin	$\geq 11.0$ g/dL (untransfused and without erythropoietin)	$\geq 11$ g/dL or increase $\geq 50\%$ over baseline	Decrease of $\geq 2$ g/dL from baseline secondary to CLL	Increase $< 11.0$ g/dL or $< 50\%$ over baseline, or decrease $< 2$ g/dL
	Marrow	Normocellular, no CLL cells, no B-lymphoid nodules	Presence of CLL cells, or of B-lymphoid nodules, or not done	Increase of CLL cells by $\geq 50\%$ on successive biopsies	No change in marrow infiltrate

For a detailed description of the response parameters, see section 5.

\*Sum of the products of 6 or fewer lymph nodes (as evaluated by CT scans and physical examination in clinical trials or by physical examination in general practice).

†Spleen size is considered normal if  $< 13$  cm. There is not firmly established international consensus of the size of a normal liver; therefore, liver size should be evaluated by imaging and manual palpation in clinical trials and be recorded according to the definition used in a study protocol.

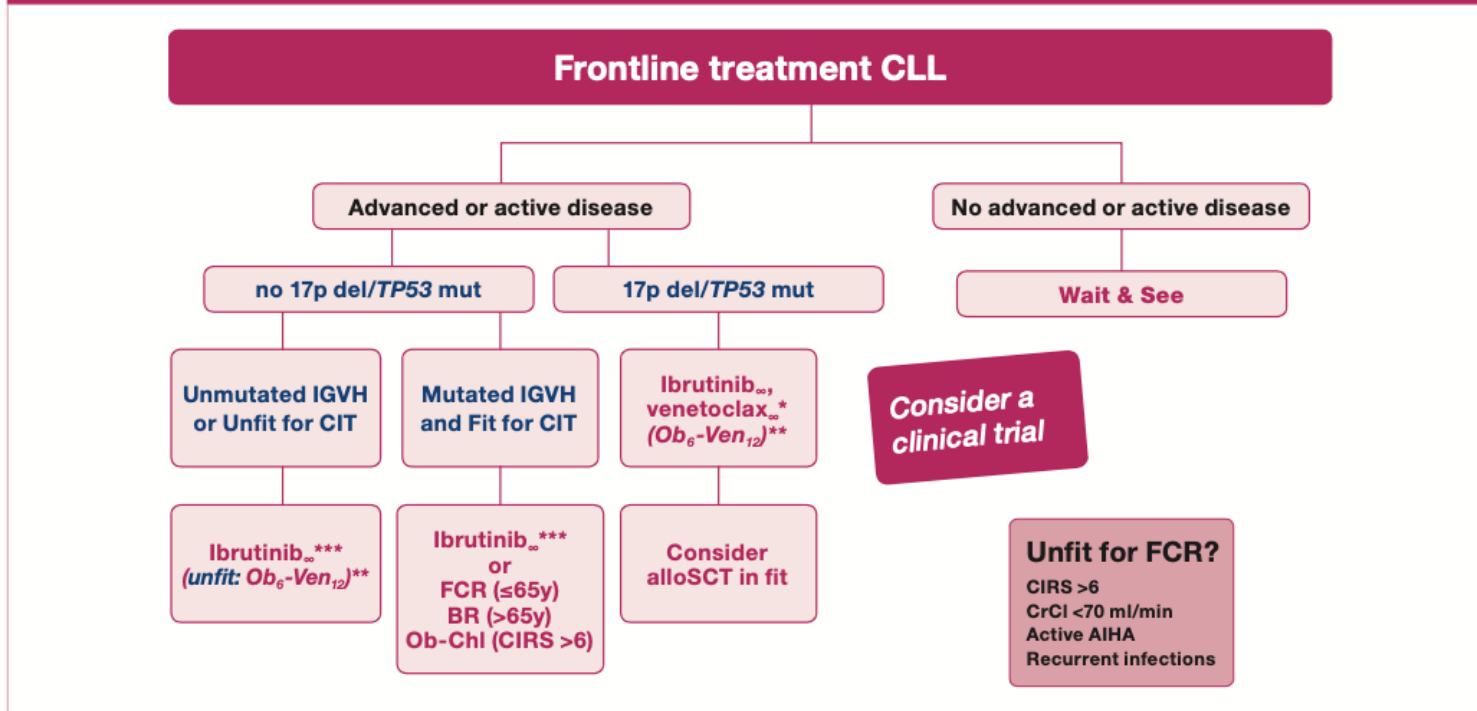
CR, complete remission (all of the criteria have to be met); PD, progressive disease (at least 1 of the criteria of group A or group B has to be met); PR, partial remission (for a PR, at least 2 of the parameters of group A and 1 parameter of group B need to improve if previously abnormal; if only 1 parameter of both groups A and B is abnormal before therapy, only 1 needs to improve); SD, stable disease (all of the criteria have to be met; constitutional symptoms alone do not define PD).

# Supportive care

- Infectiepreventie
  - Opportunistische infecties (PJP)
  - Virale reactivatie (HBV)
- Vaccinatie
  - Griep
  - Pneumokok
  - COVID-19
- Substitutie immuunglobulines (IVIg's)

# Welke therapie?

**FIGURE 2.** Recommendation for treatment of front-line CLL 2020.



∞: continuous treatment.

\*: venetoclax if the patient is unsuitable for ibrutinib and *TP53* aberration.

\*\**: Ob<sub>6</sub>-Ven<sub>12</sub>* not indicated and reimbursed in Belgium 02-2020.

\*\*\*: ibrutinib<sub>∞</sub>: only reimbursed in Belgium 02-2020 for patients unfit for CIT.

*del*: deletion; *mut*: mutation; *IGVH*: immunoglobulin heavy chain variable region genes; *CIT*: chemoimmunotherapy; *FCR*: fludarabine, cyclophosphamide, rituximab; *BR*: bendamustine, rituximab; *Chl*: chlorambucil, *Ob*: obinutuzumab; *Ven*: venetoclax; *alloSCT*: allogeneic stem cell transplantation; *CIRS*: cumulative illness rating scale; *Cr CL*: creatinine clearance; *AIHA*: immune mediated haemolytic anaemia; *y*: years.

# Actuele dilemma's

## Anti-CD20 en COVID-19:

- B-cel aplasie tot 3 maand na laatste toediening
  - geen aanmaak antistoffen bij infectie
  - verlengde virale fase (tot maanden!)
  - geen antistof respons vaccinatie
- Rituximab, obinutumumab, alemtuzumab

# Actuele dilemma's

## CLL therapie en COVID-19+

- Venetoclax STOP
- Anti CD20 overslaan
- BTKI verder als milde symptomen
- IVIG kan verder, maar CAVE trombose

# Bedankt!







Q&A



Dank je voor je deelname; je kan een evaluatieformulier invullen door onderstaande link te over te nemen of de qr-code te scannen.

<https://forms.office.com/r/q6bqNjLbxN>