RCB na NAC: de nieuwe standaard?

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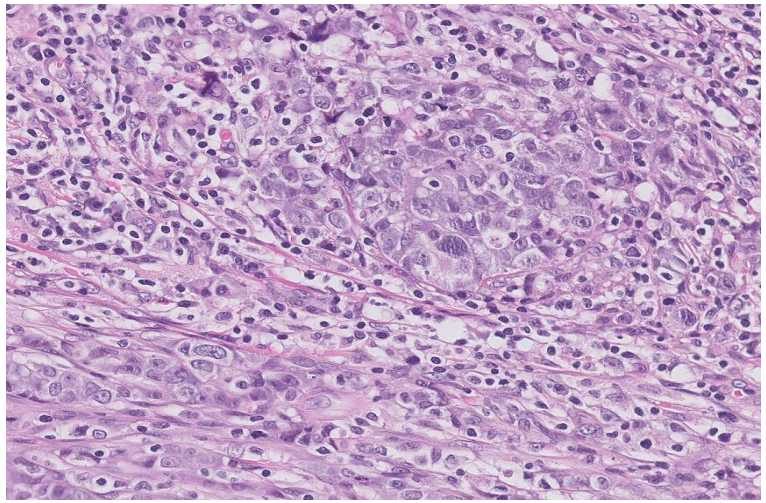
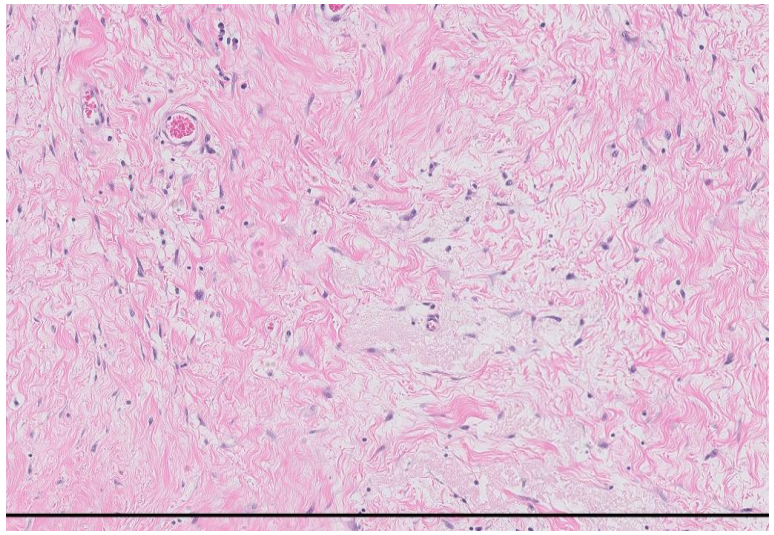
- No disclosures related to this presentation

Response op NAC

- Geen respons
- Partiele respons
- Complete response (pCR): ypT0/is pN0 of yPT0 pN0





Responsevaluatie was met name prognostisch relevant, maar krijgt laatste jaren ook behandelconsequenties

Sampling op goede plek (marker) wordt dus extra belangrijk

Dichotomisatie is te simplistisch

- Het leert ons over de tumorbiologie en lange termijn prognose bij subgroepen van patiënten.

- Dit vormt de basis voor optimalisatie van nabehandeling

VOLUME 25 · NUMBER 28 · OCTOBER 1 2007

JOURNAL OF CLINICAL ONCOLOGY

ORIGINAL REPORT

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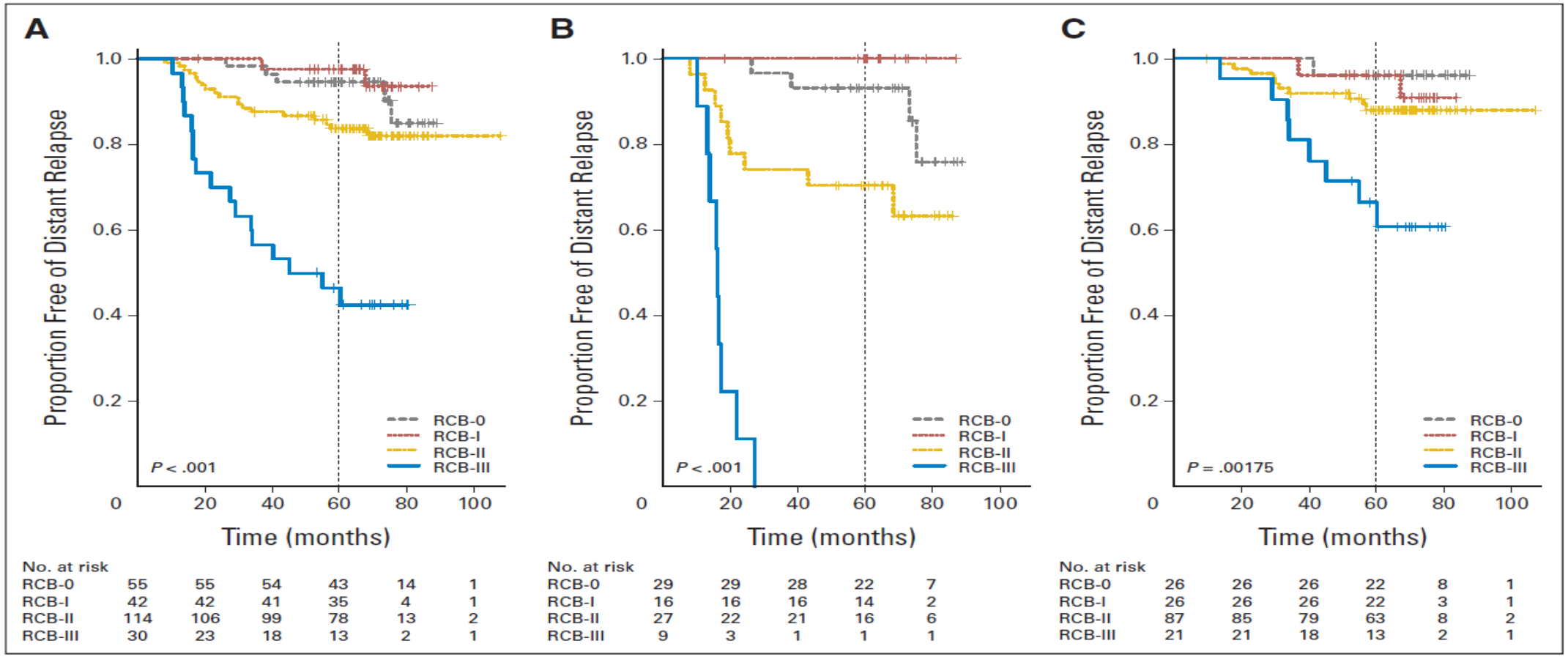

No. at risk						
RCB-0	55	55	54	43	14	1
RCB-I	42	42	41	35	4	1
RCB-II	114	106	99	78	13	2
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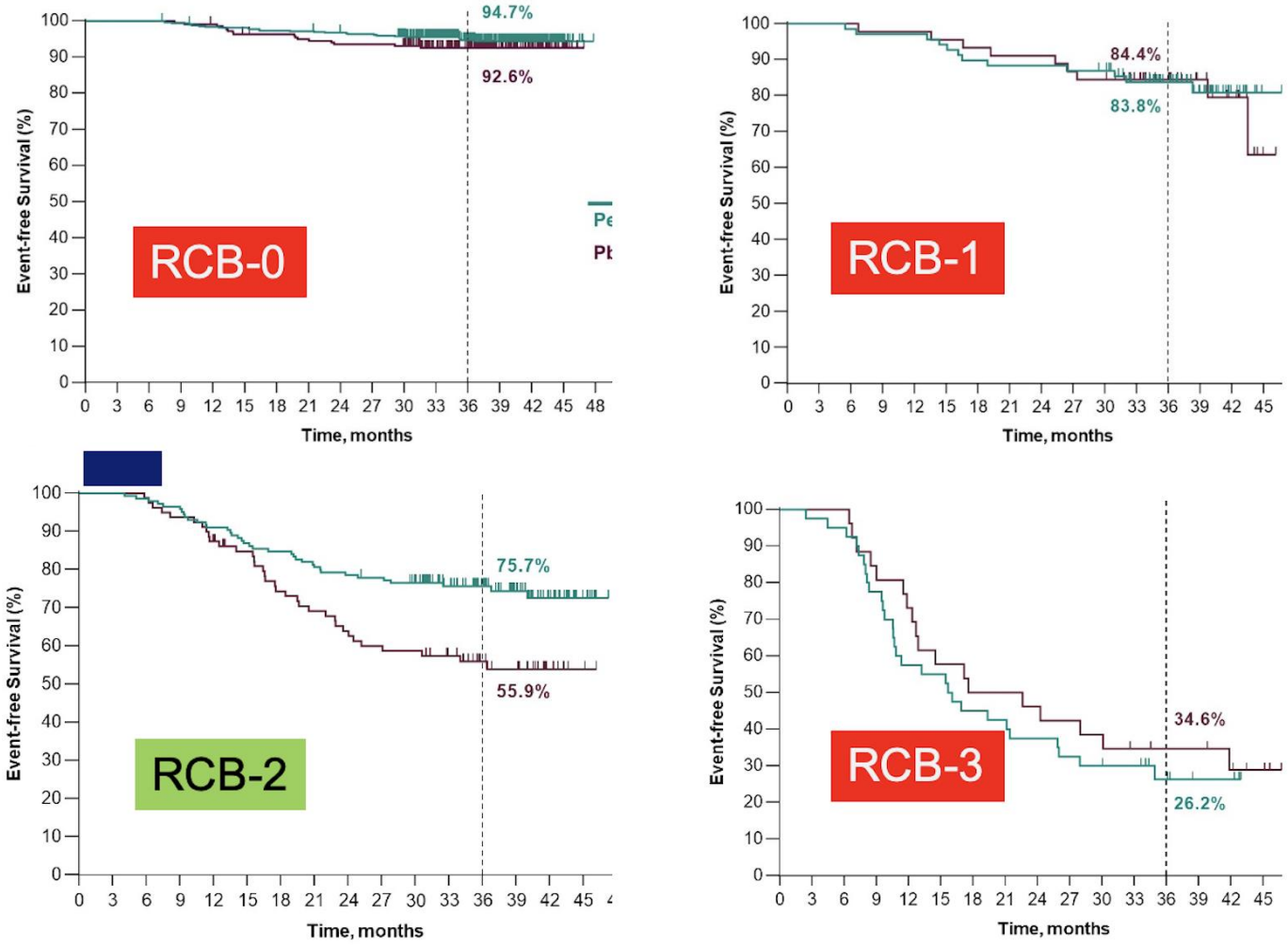
Fig 3. Likelihood of distant relapse in patients with residual cancer burden (RCB) -0 (pathologic complete response), RCB-I, RCB-II, or RCB-III in: (A) entire paclitaxel plus fluorouracil, doxorubicin, and cyclophosphamide (T/FAC) cohort; (B) subset without adjuvant hormone treatment; (C) subset who received adjuvant hormone treatment (91% of hormone receptor–positive and no hormone receptor–negative patients). *P* values are from a log-rank test for difference between all survival curves.

Effectiteit pembrolizumab per RCB subgroup, KN 522



Asco 2022 Puztai

Response-evaluatie is dus relevant voor prognose maar wordt ook steeds belangrijker voor adjuvante therapie voor patienten zonder pCR

Systemen voor therapie-response?

1. MD Anderson Residual Cancer Burden (RCB)
2. Pinder regression score
3. Miller-Payne System
4. ‘Residual Disase in Breast and Nodes’ System
5. Chevallier classification
6. Sataloff’s classification
7. Nottingham Clinico-Pathological Response Index (NPRI)

…en vele anderen?

Vergelijking classificatiesystemen

Comparison of Pathologic Response Evaluation Systems after Anthracycline with/without Taxane-Based Neoadjuvant Chemotherapy among Different Subtypes of Breast Cancers

Hee Jin Lee [1], In Ah Park [1], In Hye Song [1], Sung-Bae Kim [2], Kyung Hae Jung [2], Jin-Hee Ahn [2], Sei-Hyun Ahn [3], Hak Hee Kim [4], Gyungyub Gong [1]

Plos One, 2015

Systemen: pTNM, RCB, RDBN, tumor-response ratio, Sataloff, Miller-Payne

Comparison of residual cancer burden, American Joint Committee on Cancer staging and pathologic complete response in breast cancer after neoadjuvant chemotherapy: results from the I-SPY 1 TRIAL (CALGB 150007/150012; ACRIN 6657)

Jeffrey I Campbell [1], Christina Yau [2], Polina Krass [3], Dan Moore [2], Lisa A Carey [4], Alfred Au [2], David Chhieng [5], Dilip Giri [6], Chad Livasy [4], Carolyn Mies [7], Joseph Rabban [2], Venetia R Sarode [8], Baljit Singh [9], Laura Esserman [2], Yunn-Yi Chen [10]

Breast Cancer Res Treat 2017

Systemen: pCR, RCB an yAJCC

Assessment of pathologic response and long-term outcome in locally advanced breast cancers after neoadjuvant chemotherapy: comparison of pathologic classification systems

Misun Choi [1], Yeon Hee Park [2], Jin Seok Ahn [2], Young-Hyuck Im [2], Seok Jin Nam [3], Soo Youn Cho [4], Eun Yoon Cho [5]

Breast Cancer Res Treat, 2016

Systemen: NSABP-B18, Miller-Payne, Chevallier, Sataloff, RCB, RDBN, CPS+EG

Overall conclusies:

- Niet alle systemen zijn prognostisch bij alle subtypes
- Evaluatie van hoeveelheid rest-tumor in mamma en lymfklieren is van belang, naast het meten van de mate van respons

Hoe doen we het nu in Nederland?

Histopathology 2007

"There is no current consensus favouring any particular system
An approach such as this is logical and includes both nodal and tumour response".

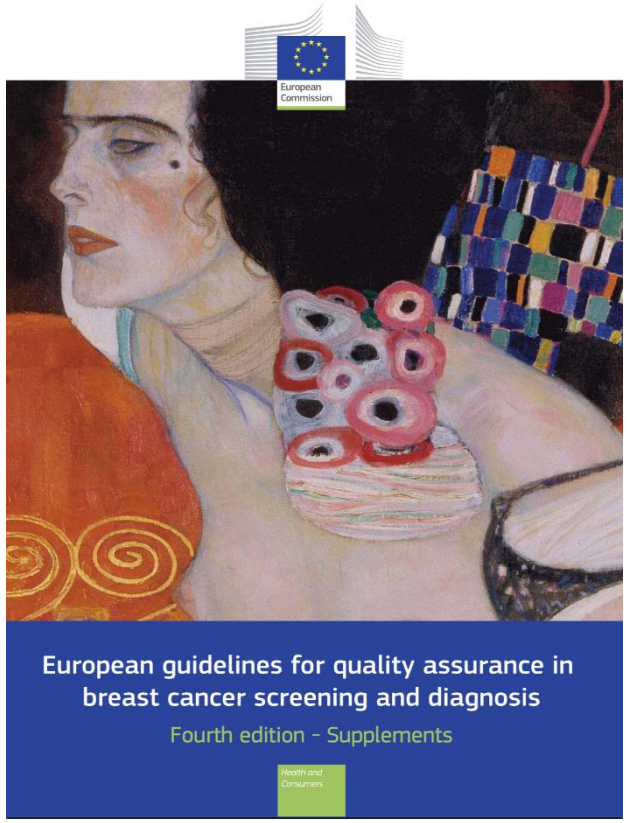


Table 3: Recommended classification of response to chemotherapy

Tumour response

1. Complete pathological response, either (i) no residual carcinoma or (ii) no residual invasive tumour but DCIS present.
2. Partial response to therapy, either (i) minimal residual disease/near total effect (e.g. < 10% of tumour remaining) or (ii) evidence of response to therapy but with 10–50% of tumour remaining or (iii) > 50% of tumour cellularity remains evident, when compared with the previous core biopsy sample, although some features of response to therapy present. Points (ii) and (iii) are somewhat subjective, especially when the core biopsy cannot be reviewed.
3. No evidence of response to therapy.

Nodal response

1. No evidence of metastatic disease and no evidence of changes in the lymph nodes.
2. Metastatic tumour not detected but evidence of response/down-staging, e.g. fibrosis.
3. Metastatic disease present but also evidence of response, such as nodal fibrosis.
4. Metastatic disease present with no evidence of response to therapy.

In combinatie met pTNM!

2 verbeterpunten

- Response evaluatiesysteem dat gevalideerd is en sterker aansluit op de internationale praktijk

- Uniformer gebruik ypTNM classificatie

Residual cancer burden

- Robust en reproduceerbaar
- Goed gevalideerd in klinische trials en in community setting
- Is prognostisch bij alle subtypes

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Annals of Diagnostic Pathology 49 (2020) 151634

Contents lists available at ScienceDirect

Annals of Diagnostic Pathology

journal homepage: www.elsevier.com/locate/anndiagpath

Predictive markers for pathological complete response after neo-adjuvant chemotherapy in triple-negative breast cancer

Mieke R. Van Bockstal[a,b,c,*], Fanchon Noel[a], Yves Guiot[a], Francois P. Duhoux[b,c,d], Filomena Mazzeo[b,c,d], Cédric Van Marcke[b,c,d], Latifa Fellah[b,c,e], Benjamin Ledoux[b,c,f], Martine Berlière[b,c], Christine Galant[a,b,c]

Published in final edited form as:

Mod Pathol. 2015 July ; 28(7): 913–920. doi:10.1038/modpathol.2015.53.

Reproducibility of Residual Cancer Burden For Prognostic Assessment of Breast Cancer After Neoadjuvant Chemotherapy

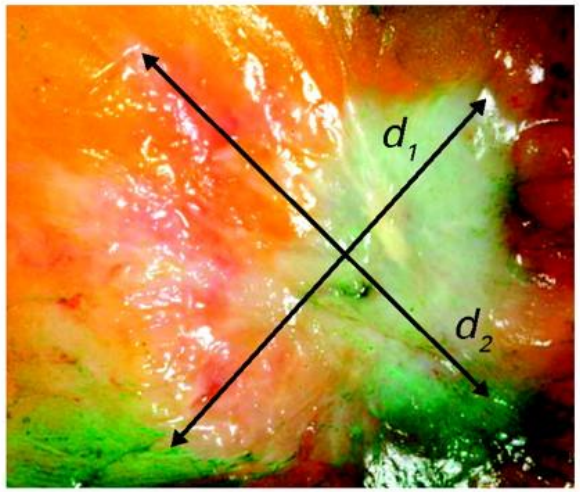
Florentia Peintinger[1,2], **Bruno Sinn**[3], **Christos Hatzis**[4], **Constance Albarracin**[3], **Erinn Downs-Kelly**[5], **Jerzy Morkowski**[6], **Rebekah Gould**[3], and **W. Fraser Symmans**[3]

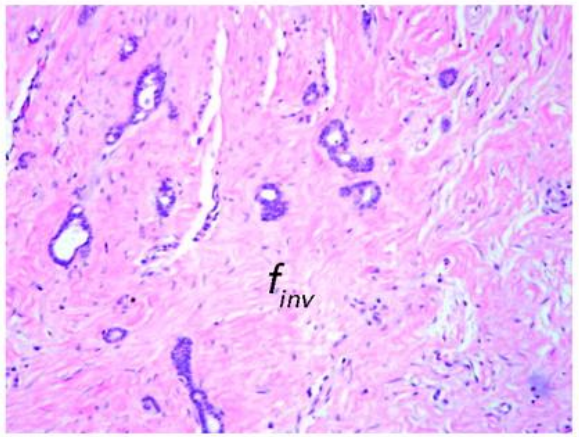
[1]Institute of Pathology, Medical University of Graz, Auenbruggerplatz 25, 8036 Graz, Austria

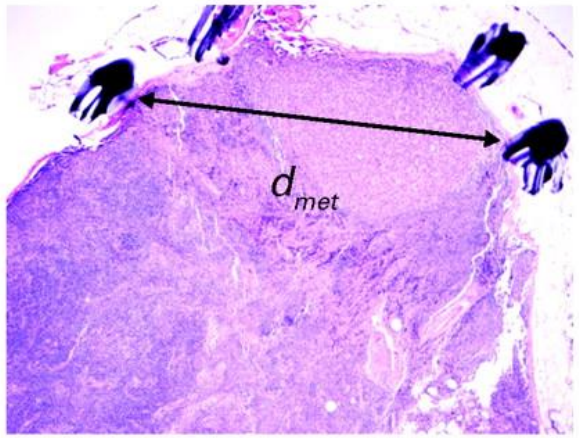
[2]Department of Gynecology, General Hospital Leoben, Vordernbergerstrasse 42, 8700 Leoben, Austria

[3]Department of Pathology, The University of Texas M.D. Anderson Cancer Center, 1515 Holcombe Blvd, Houston, TX 77030, United States

[4]Yale Comprehensive Cancer Center, Yale School of Medicine, 333 Cedar Street, PO Box 208032, New Haven, CT 06520-8032, United States







Variable	Hazard Ratio (95% CI)	*P*
Primary tumor bed dimensions ($\sqrt{d_1 d_2}$)	1.24 (1.04 to 1.48)	.02
Cellularity fraction of invasive cancer (f_{inv})	7.37 (2.16 to 25.1)	.001
Size of largest metastasis (d_{met})	1.17 (0.99 to 1.38)	.06
No. of positive lymph nodes	1.11 (1.04 to 1.19)	.002

Symmans W F et al. JCO 2007;25:4414-4422

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(1) Primary Tumor Bed

Primary Tumor Bed Area: _____ (mm) X _____ (mm)

Overall Cancer Cellularity (as percentage of area): _____ (%)

Percentage of Cancer That Is *in situ* Disease: _____ (%)

(2) Lymph Nodes

Number of Positive Lymph Nodes: _____

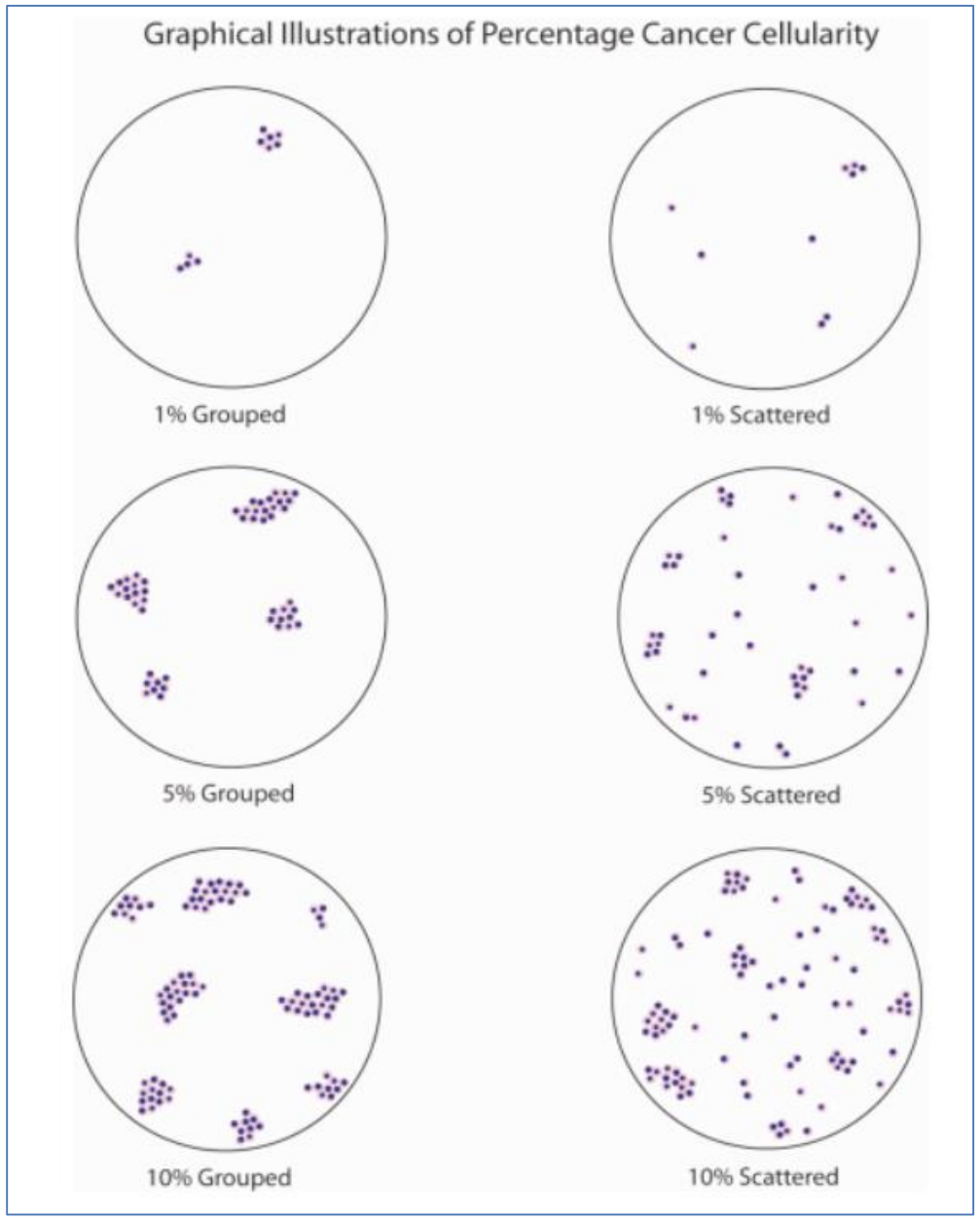
Diameter of Largest Metastasis: _____ (mm)

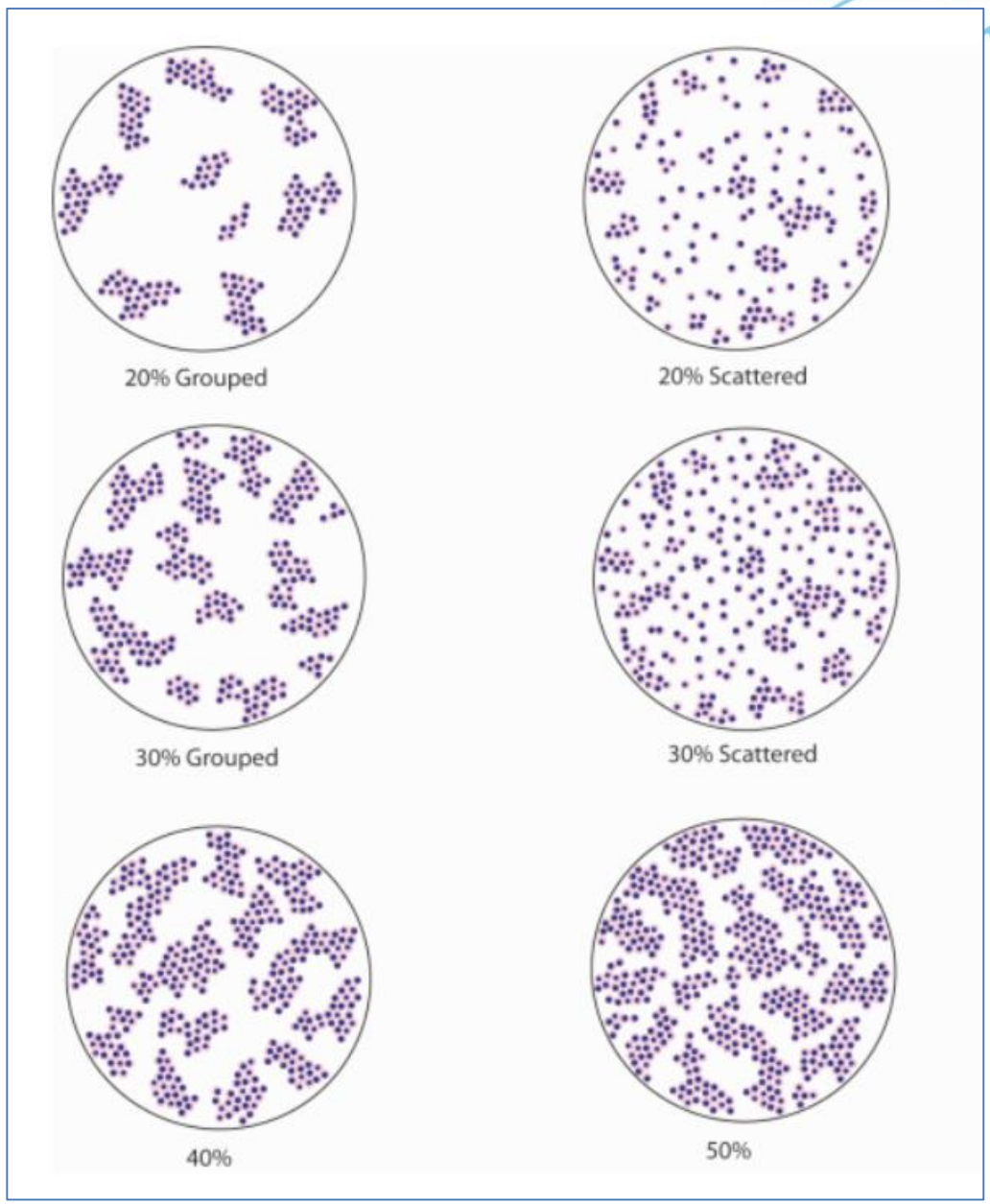
Reset Calculate

Residual Cancer Burden: _____

Residual Cancer Burden Class: _____

RCB 0 pCR
RCB 1 weinig resttumor
RCB 2 matige hoeveelheid rest tumor
RCB 3 veel resttumor


Graphical Illustrations of Percentage Cancer Cellularity
1% Grouped
1% Scattered
5% Grouped
5% Scattered
10% Grouped
10% Scattered


20% Grouped
20% Scattered
30% Grouped
30% Scattered
40%
50%

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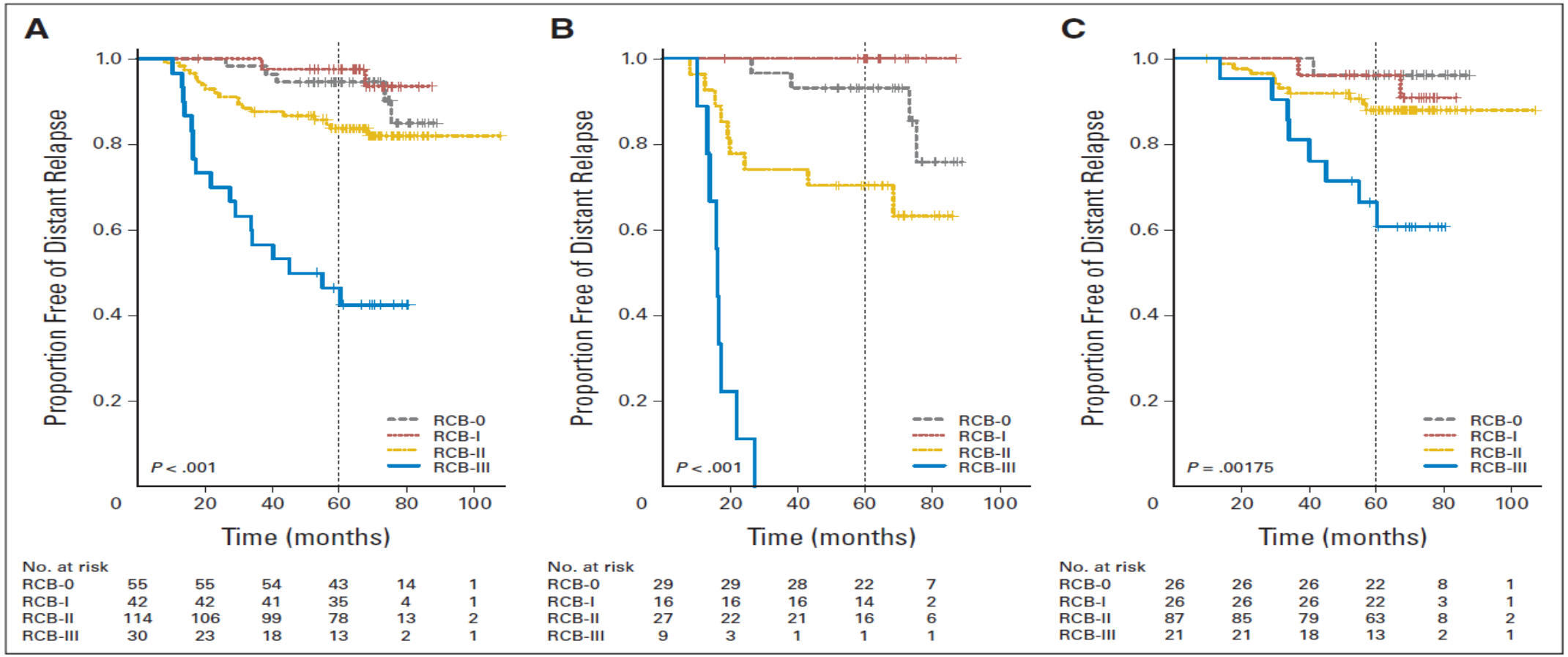

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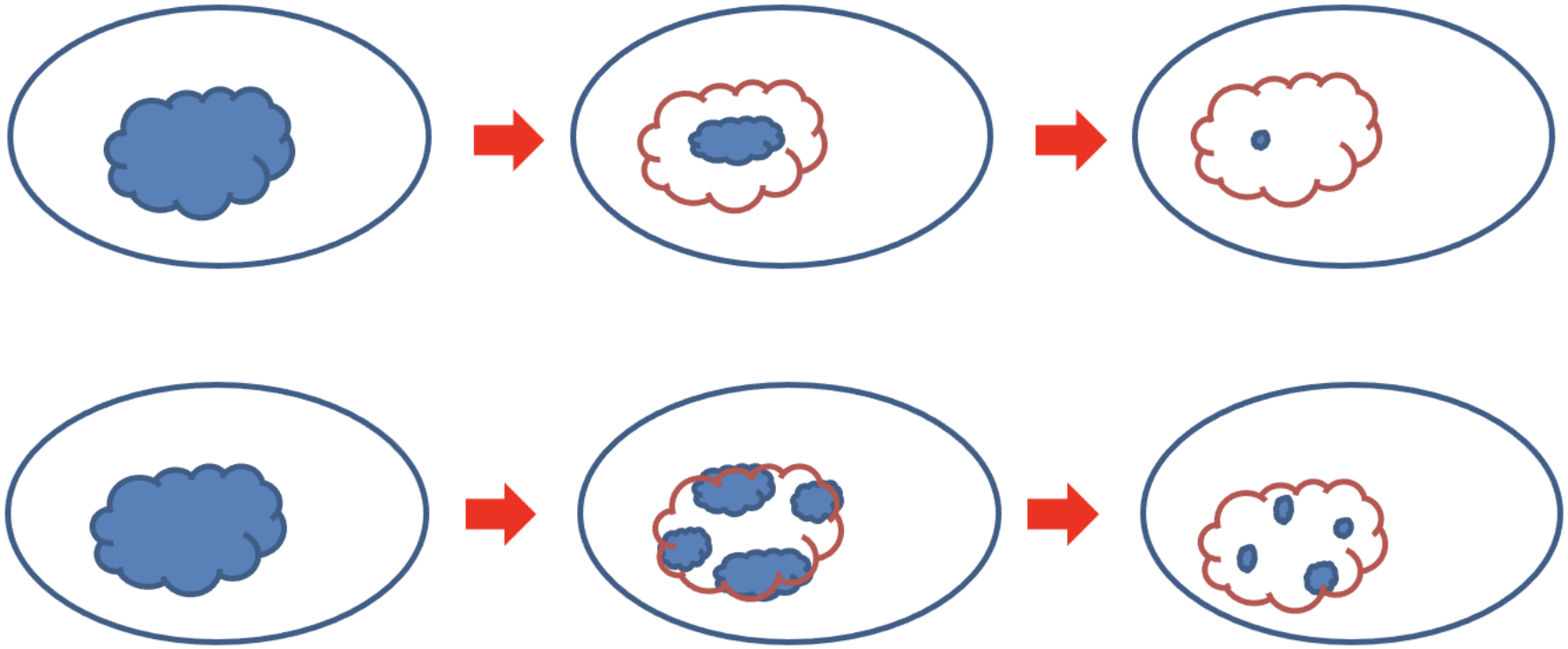
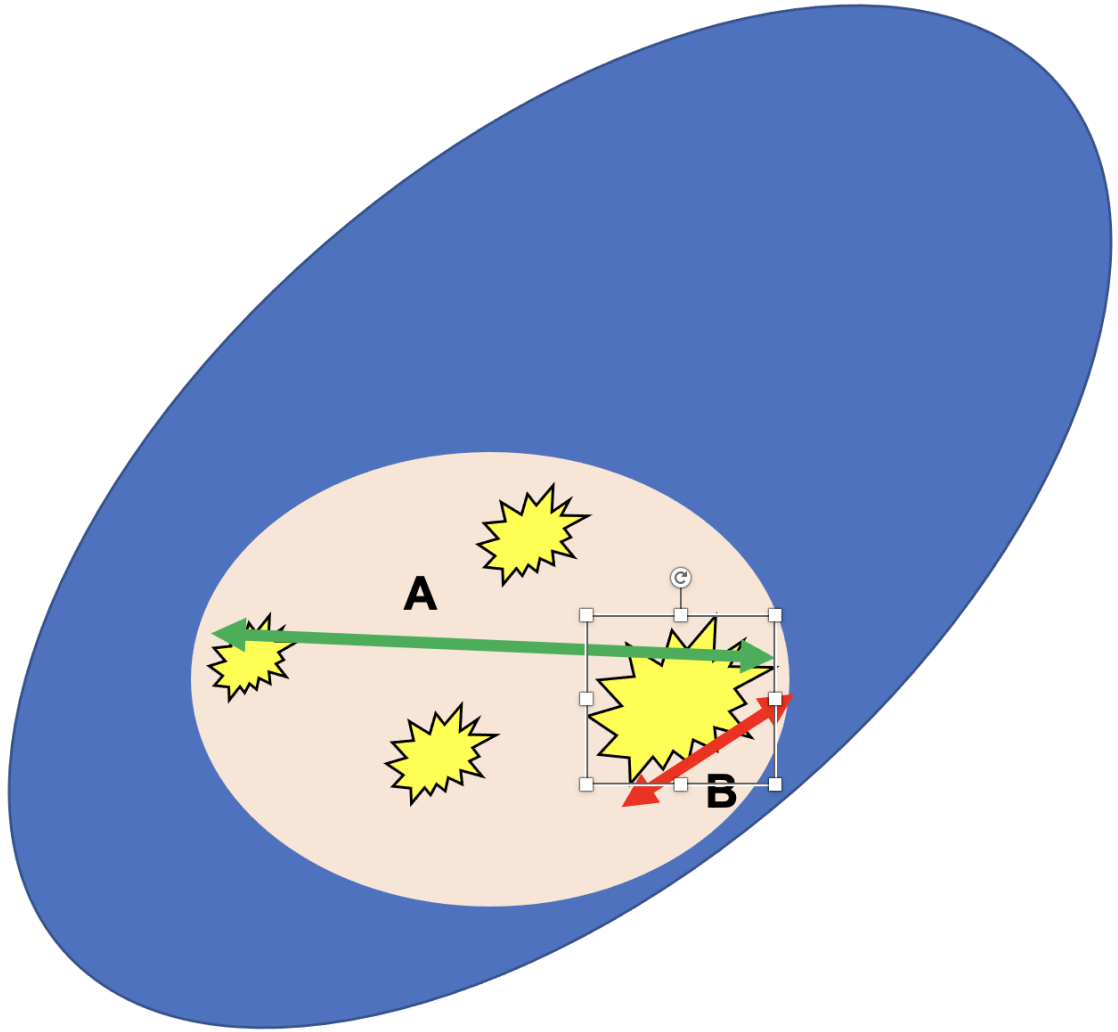
Residual cancer burden: de nieuwe standaard?

- Is het NU voor alle patienten klinisch relevant?
- Is het meer werk voor de patholoog?

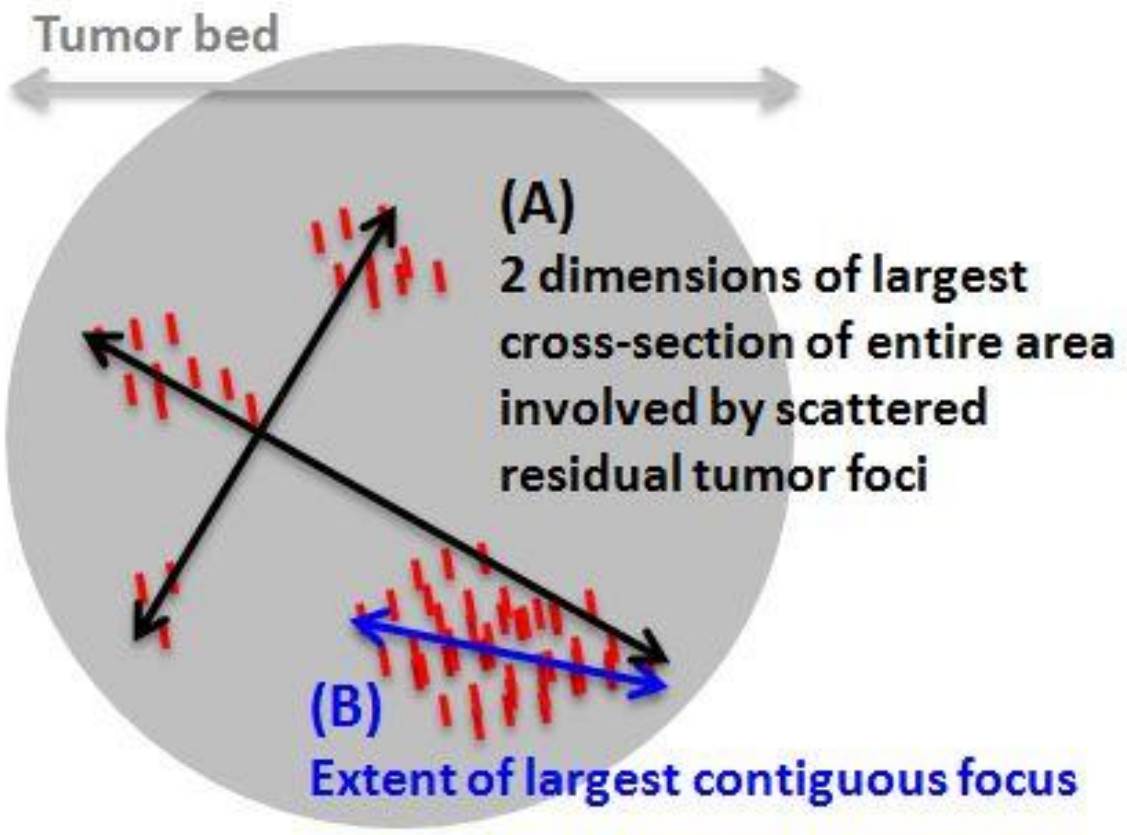
- Robuust, goed gevalideerd systeem dat beter aansluit op internationale ontwikkelingen

Response op NAC




A
B

Controversieel scenario: tumordiameter na NAC

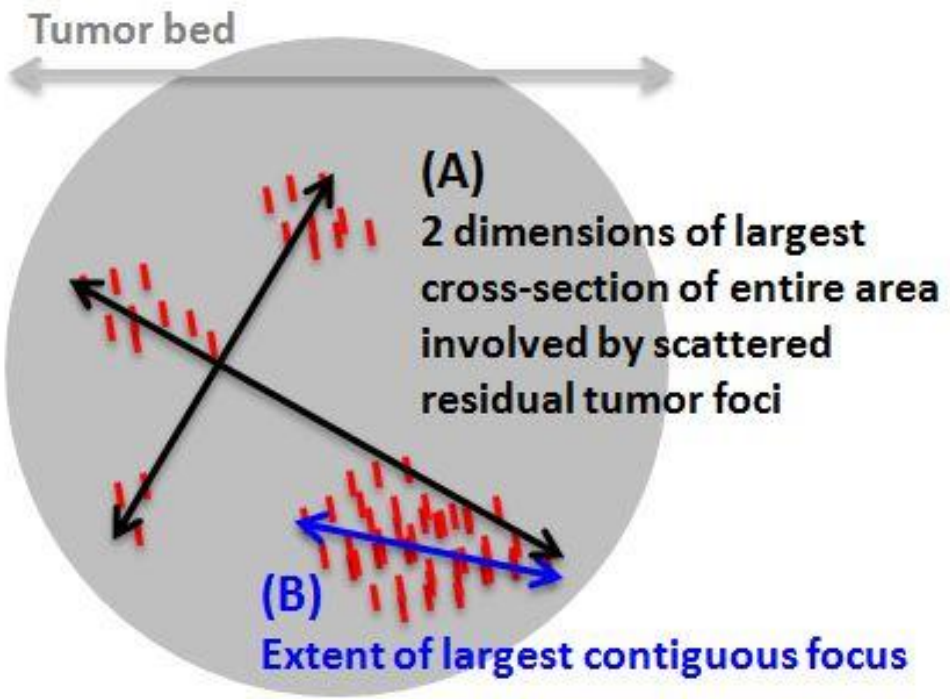


Controversieel scenario: tumordiameter na NAC

Modern Pathology (2015) 28, 1185–1201

Standardization of pathologic evaluation and reporting of postneoadjuvant specimens in clinical trials of breast cancer: recommendations from an international working group

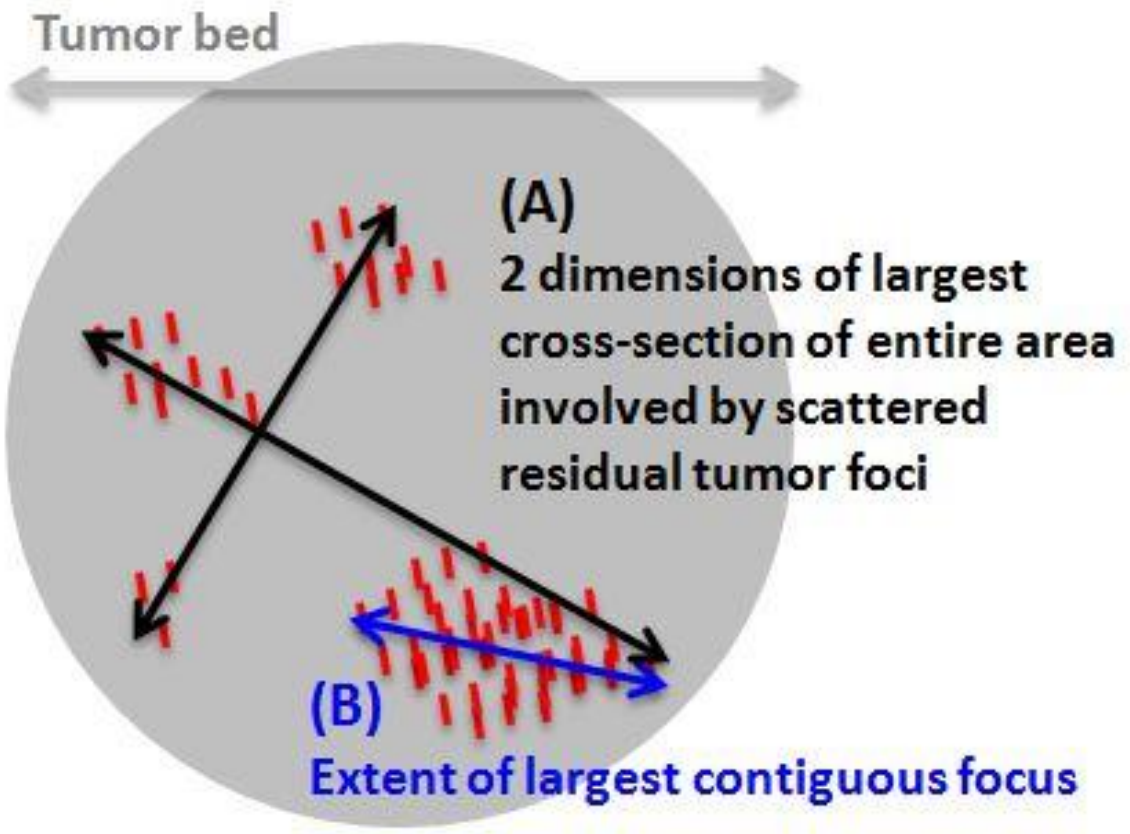
Elena Provenzano[1], Veerle Bossuyt[2], Giuseppe Viale[3], David Cameron[4], Sunil Badve[5], Carsten Denkert[6], Gaëtan MacGrogan[7], Frédérique Penault-Llorca[8], Judy Boughey[9], Giuseppe Curigliano[10], J Michael Dixon[11], Laura Esserman[12], Gerd Fastner[13], Thorsten Kuehn[14], Florentia Peintinger[15,16], Gunter von Minckwitz[17], Julia White[18], Wei Yang[19] and W Fraser Symmans[20] on behalf of the Residual Disease Characterization Working Group of the Breast International Group-North American Breast Cancer Group (BIG-NABCG) collaboration



Suggested approach (opinion/limited evidence):

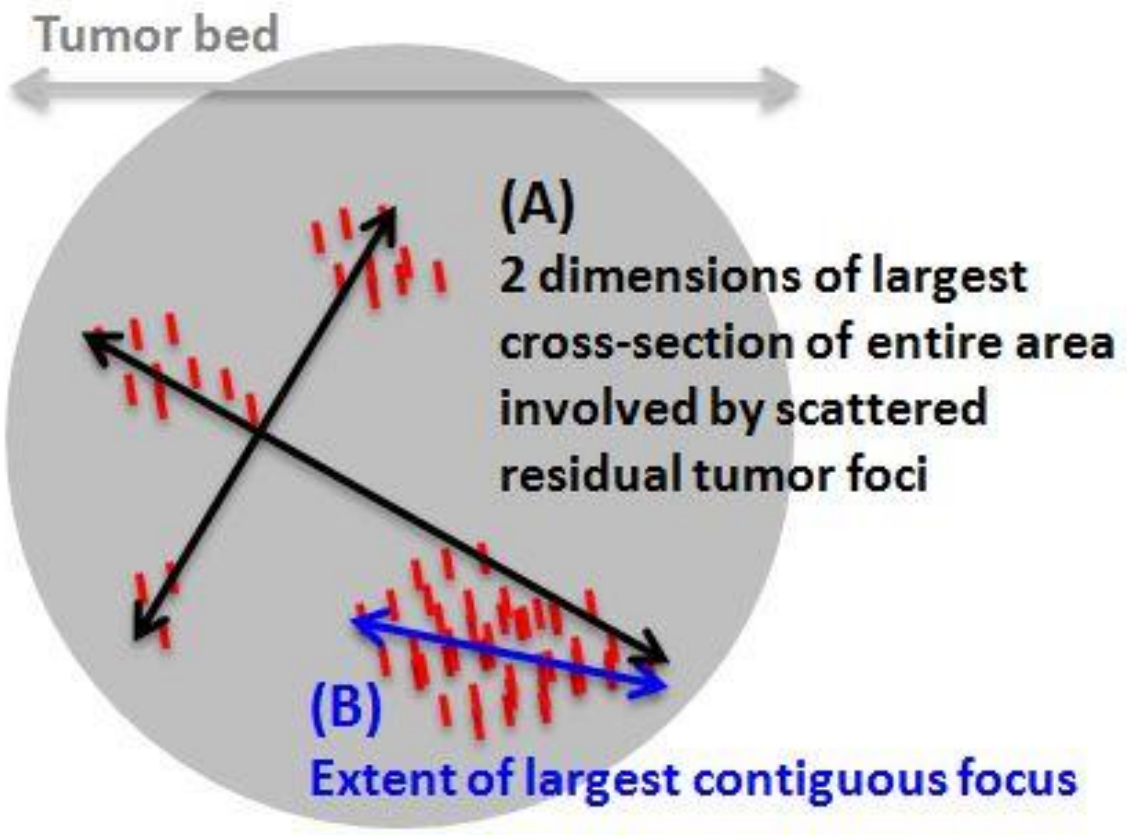
- Meting B leidt tot mogelijk tot onderschatting van hoeveelheid tumor.
- Meting A hangt samen met progose, en is mogelijk relevanter
- Combinatie van meting A en cellulariteit is de beste indicator voor response

Controversieel scenario: tumordiameter na NAC



ypT: gebaseerd op het grootste continue focus van residuaal invasief carcinoom. Therapie gerelateerde fibrose bij reciduaal carcinoom of tussen de foci van reciduaal carcinoom is niet geincludeerd in de ypT diameter

Hoe meten de Nederlandse pathologen de ypT (en ypN)?



Palga protocolmodule aanpassen

- Optie van RCB erbij
- Huidige response evaluatiesysteem eruit
- Meer informatieverstrekking bij tumordiameter na NAC

Linda Woods arts