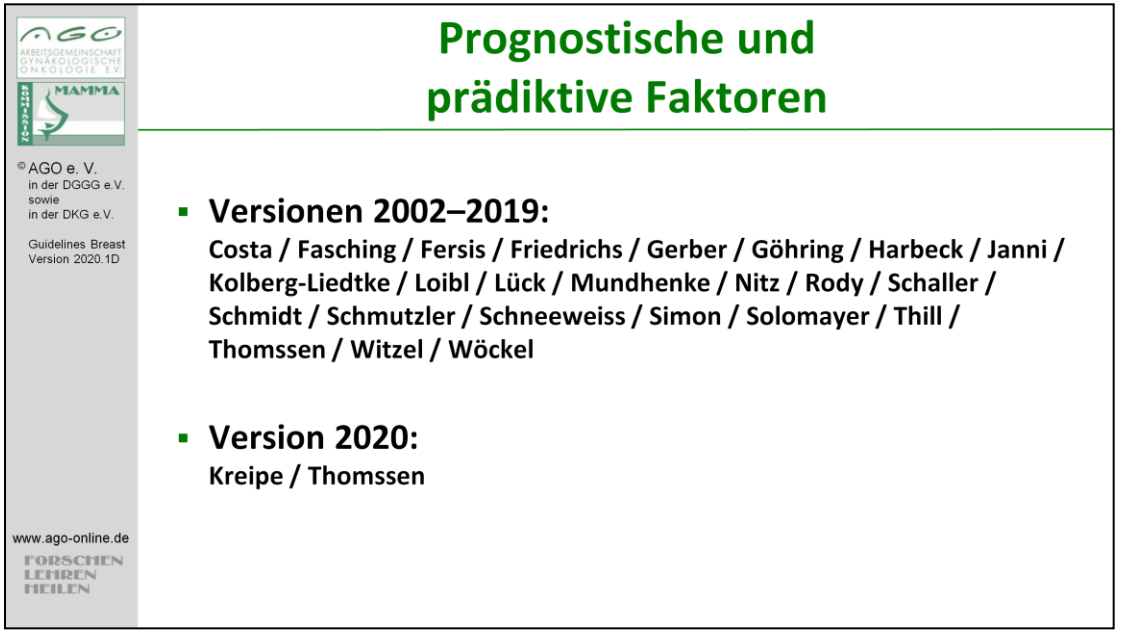
Guidelines Breast
Version 2020.1D

Prognostische und prädiktive Faktoren



Data bases screened

Pubmed 2008 - 2019, ASCO 2003 – 2019, SABCS 2003 – 2019, Cochrane data base (n.d.)

Guidelines screened

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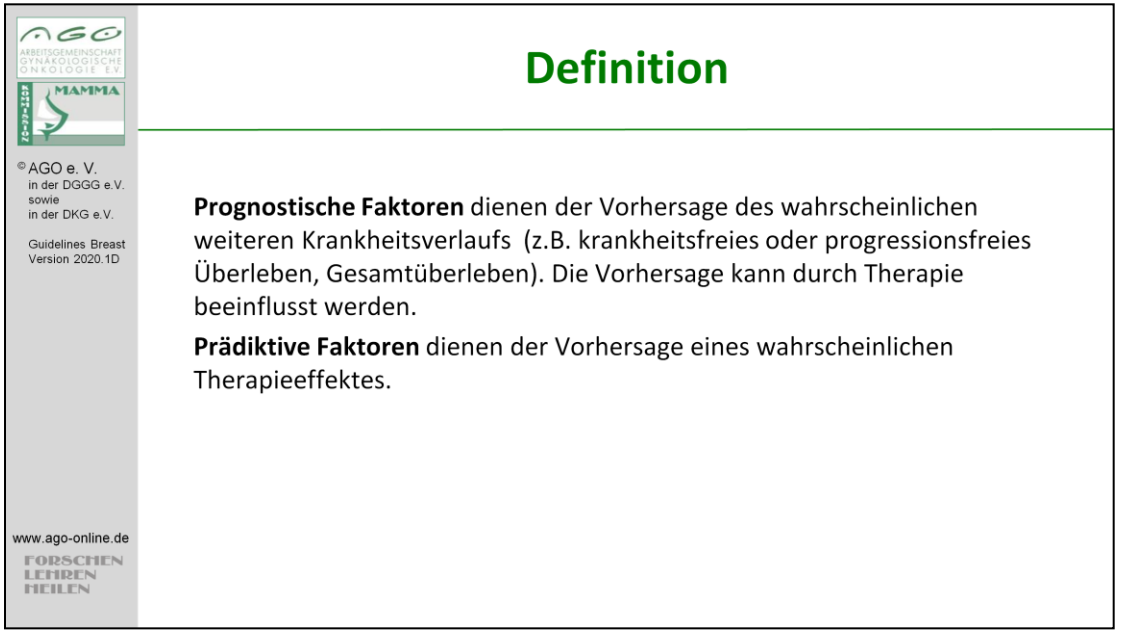
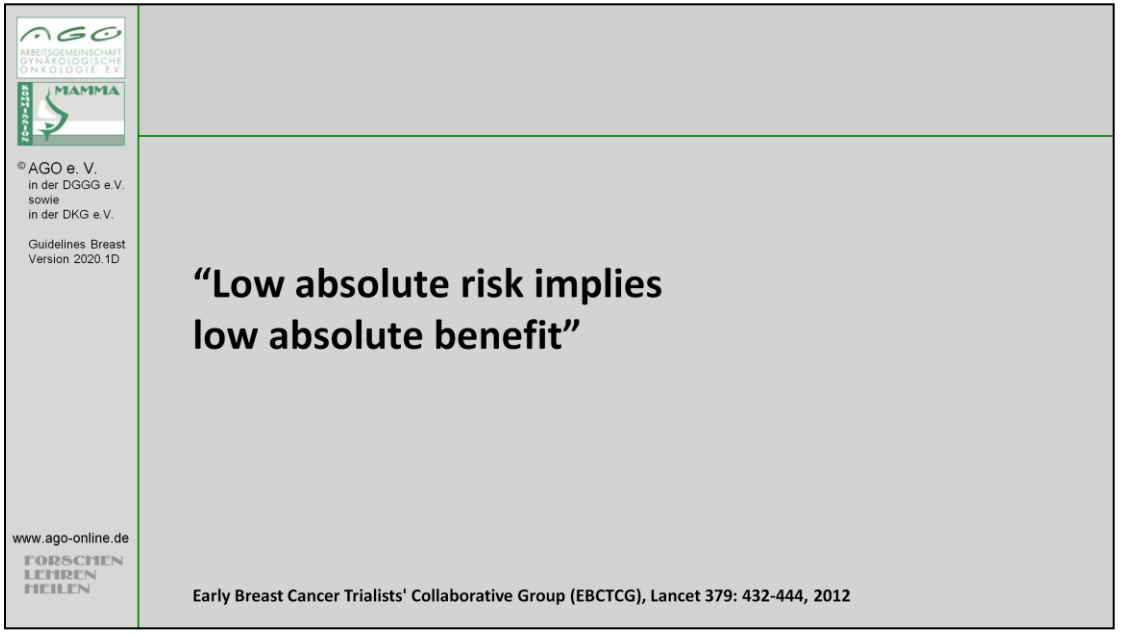


Definition of Prognosis and Prediction

Hayes DF, Bast RC, Desch CE et al.:Tumor marker utility grading system: a framework to evaluate clinical utility of tumor markers. J Natl Cancer Inst. 1996 Oct 16;88(20):1456-66.

McGuire WL, Clark GM. Prognostic factors and treatment decisions in axillary-node-negative breast cancer. N Engl J Med. 1992 Jun 25;326(26):1756-61.



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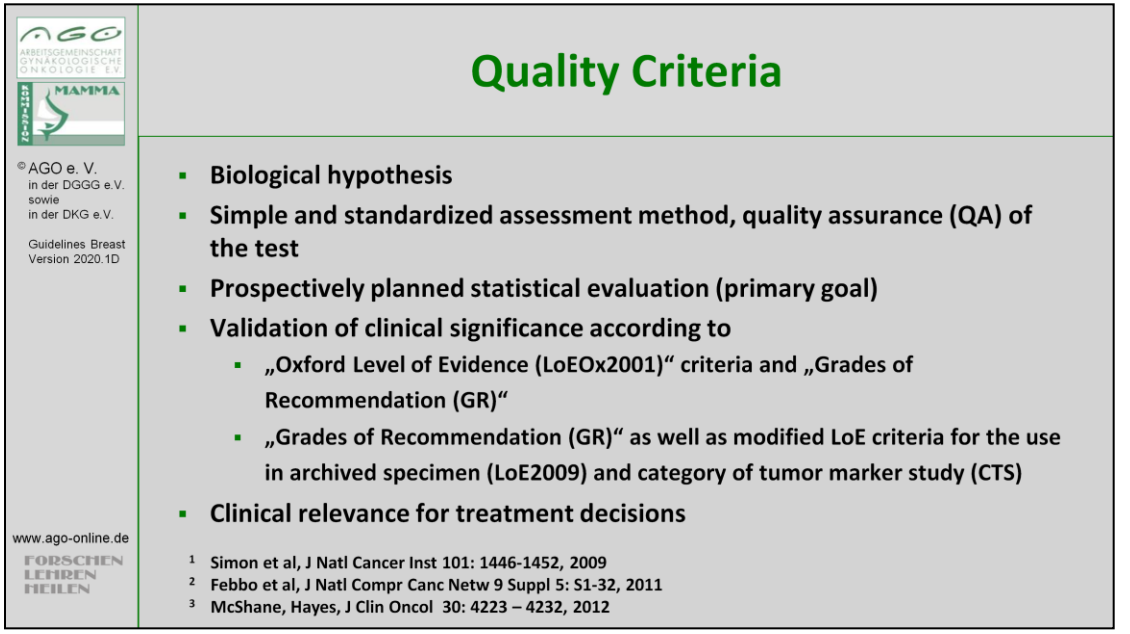

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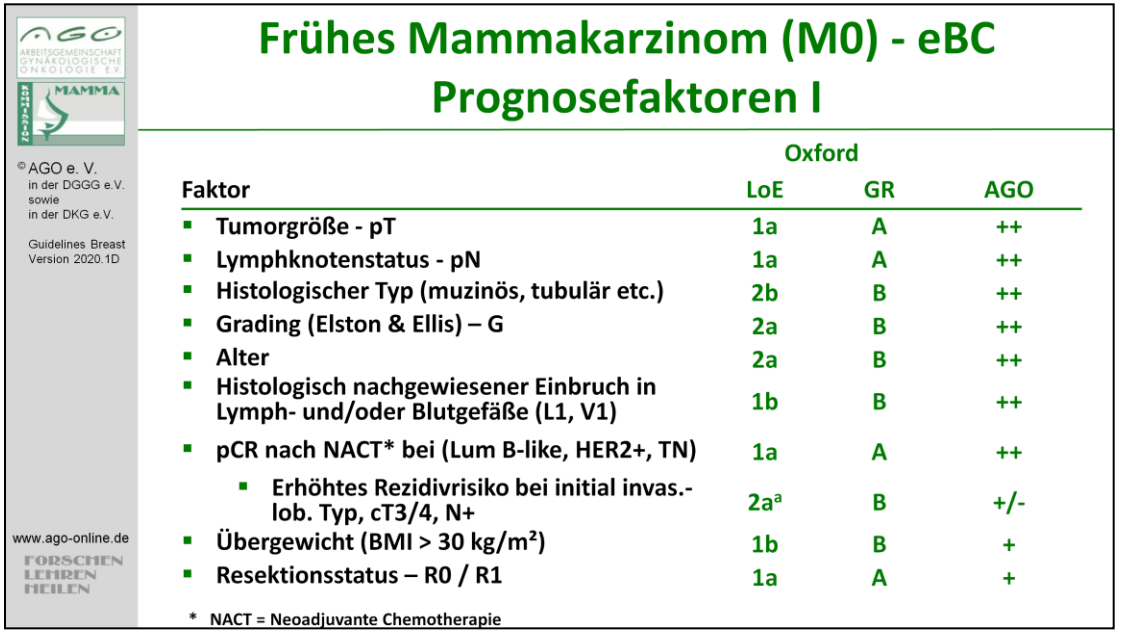

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Tumor size LoE 1a A AGO++

1. Coates AS, Winer EP, Goldhirsch A, et al. Tailoring therapies--improving the management of early breast cancer: St Gallen International Expert Consensus on the Primary Therapy of Early Breast Cancer 2015. Ann Oncol. 2015 Aug;26(8):1533-46.

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Lymphknotenstatus LoE 1a A AGO + +

1. Coates AS, Winer EP, Goldhirsch A, et al. Tailoring therapies--improving the management of early breast cancer: St Gallen International Expert Consensus on the Primary Therapy of Early Breast Cancer 2015. Ann Oncol. 2015 Aug;26(8):1533-46.
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Histological type (mucinous, tubular etc.) LoE 2b B AGO ++

1. Dieci MV, Orvieto E, Dominici M. Rare breast cancer subtypes: histological, molecular, and clinical peculiarities. Oncologist. 2014 Aug;19(8):805-13.
2. Horlings HM, Weigelt B, Anderson EM et al. Genomic profiling of histological special types of breast cancer. Breast Cancer Res Treat. 2013 Nov;142(2):257-69.
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Grading (Elston & Ellis) LoE 2a B AGO ++

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association. J Clin Pathol. 2018 Aug;71(8):680-686.

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Age LoE 2a B AGO ++

1. Johnson HM, Irish W, Muzaffar M et al. Quantifying the relationship between age at diagnosis and breast cancer-specific mortality. Breast Cancer Res Treat. 2019 Oct;177(3):713-722
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Histologically proven lymph and/or blood vessel invasion LoE 1b B AGO ++

1. Ryu YJ, Kang SJ, Cho JS et al. Lymphovascular invasion can be better than pathologic complete response to predict prognosis in breast cancer treated with neoadjuvant chemotherapy. Medicine (Baltimore). 2018 Jul;97(30):e11647

pCR after NACT* in Luminal B-like, HER2 and TN Breast Cancer ; LoE 1aA AGO ++

1. Nekljudova V, Loibl S, von Minckwitz G et al. Trial-level prediction of long-term outcome based on pathologic complete response (pCR) after neoadjuvant chemotherapy for early-stage breast cancer (EBC). Contemp Clin Trials. 2018 Aug;71:194-198.
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4. Increased risk of recurrence in invasive-lobular BC, cT3/4, N+ LoE 2a B AGO +/-

5. Huober J, Schneeweiss A, Blohmer J-U, et al. Factors predicting relapse in early breast cancer patients with a pathological complete response after neoadjuvant therapy – Results of a pooled analysis based on the GBG meta-database, SABCS 2018; P2-08-01
6. Thomas M, Kelly ED, Abraham J et al. Invasive lobular breast cancer: A review of pathogenesis, diagnosis, management, and future directions of early stage disease. Semin Oncol. 2019 Apr;46(2):121-132.

Obesity (BMI > 30 kg/m²) LoE 1b B AGO +

1. Chan DSM et al. Body mass index and survival in women with breast cancer—systematic literature review and meta-analysis of 82 follow-up studies Ann Oncol. Oct 2014; 25(10): 1901–1914.
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Resection status (R0 / R1) LoE 1a A AGO +

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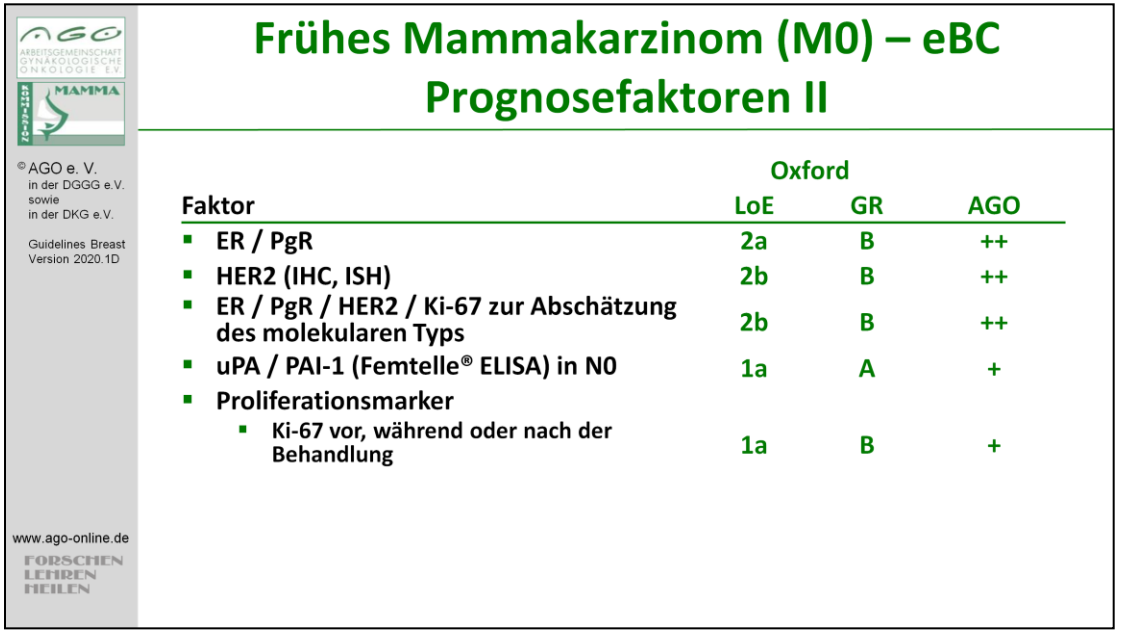

Frühes Mammakarzinom (M0) – eBC
Prognosefaktoren II

Faktor	Oxford LoE	Oxford GR	AGO
▪ ER / PgR	2a	B	++
▪ HER2 (IHC, ISH)	2b	B	++
▪ ER / PgR / HER2 / Ki-67 zur Abschätzung des molekularen Typs	2b	B	++
▪ uPA / PAI-1 (Femtelle® ELISA) in N0	1a	A	+
▪ Proliferationsmarker			
▪ Ki-67 vor, während oder nach der Behandlung	1a	B	+

ER/PR

1. Allison KH, Hammond MEH, Dowsett M et al. Estrogen and Progesterone Receptor Testing in Breast Cancer: ASCO/CAP Guideline Update. J Clin Oncol. 2020 Jan 13:JCO1902309 (und: Arch Pathol Lab Med. 2020 Jan 13).
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uPA/PAI-1

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Ki-67

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Post-treatment Ki-67

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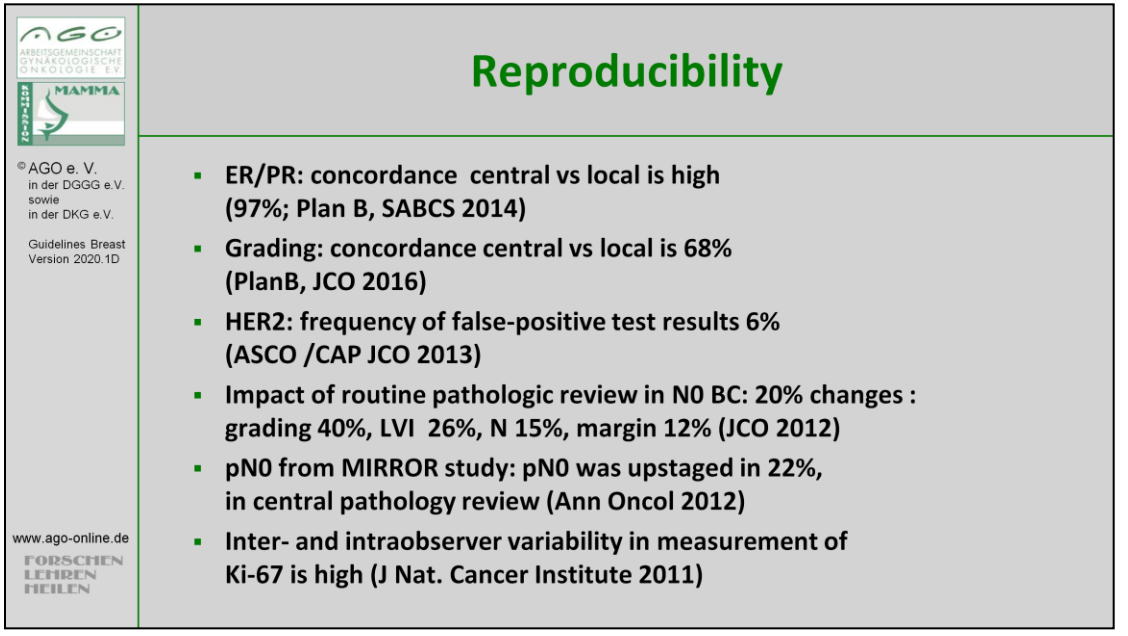

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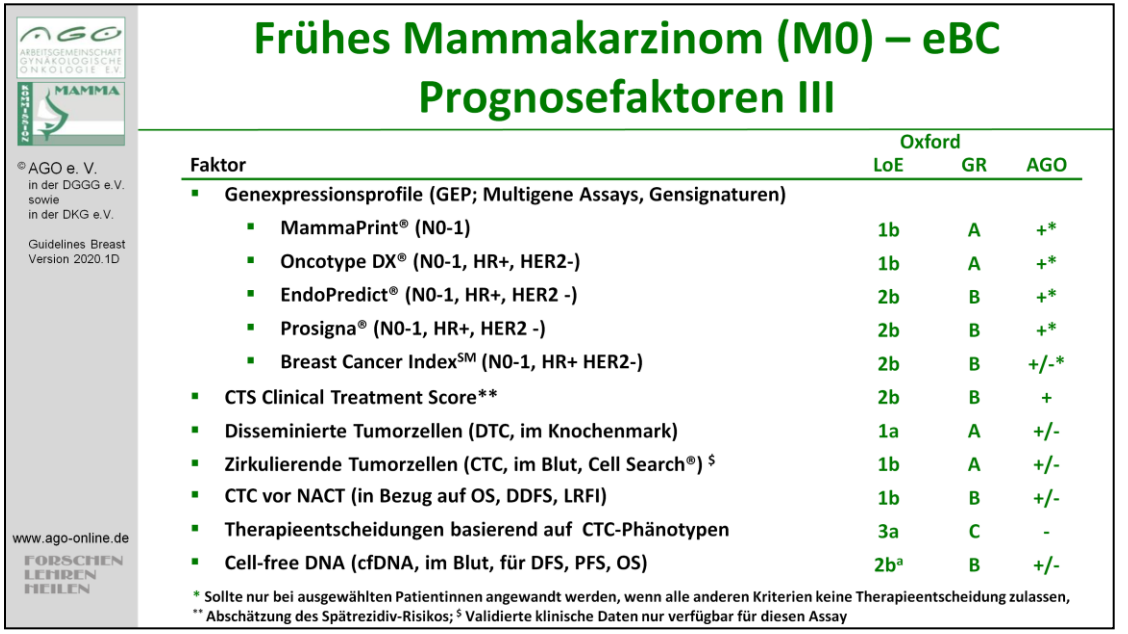

Genexpressionsprofile (GEP; Multigene Assays, Gensignaturen)

(*Should only be used in selected patients if all other criteria are inconclusive for therapeutic decision making)

MammaPrint® (N0-1) LoE 1b A AGO+*

1. Slembrouck L, Darrigues L, Laurent C et al. Decentralization of Next-Generation RNA Sequencing-Based MammaPrint® and BluePrint® Kit at University Hospitals Leuven and Curie Institute Paris. Transl Oncol. 2019 Dec;12(12):1557-1565.
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Oncotype DX® (N0-1, HR+, HER2-) LoE 1b A AGO +*

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EndoPredict® (N0-1, HR+, HER2 -) LoE 2b B AGO +*

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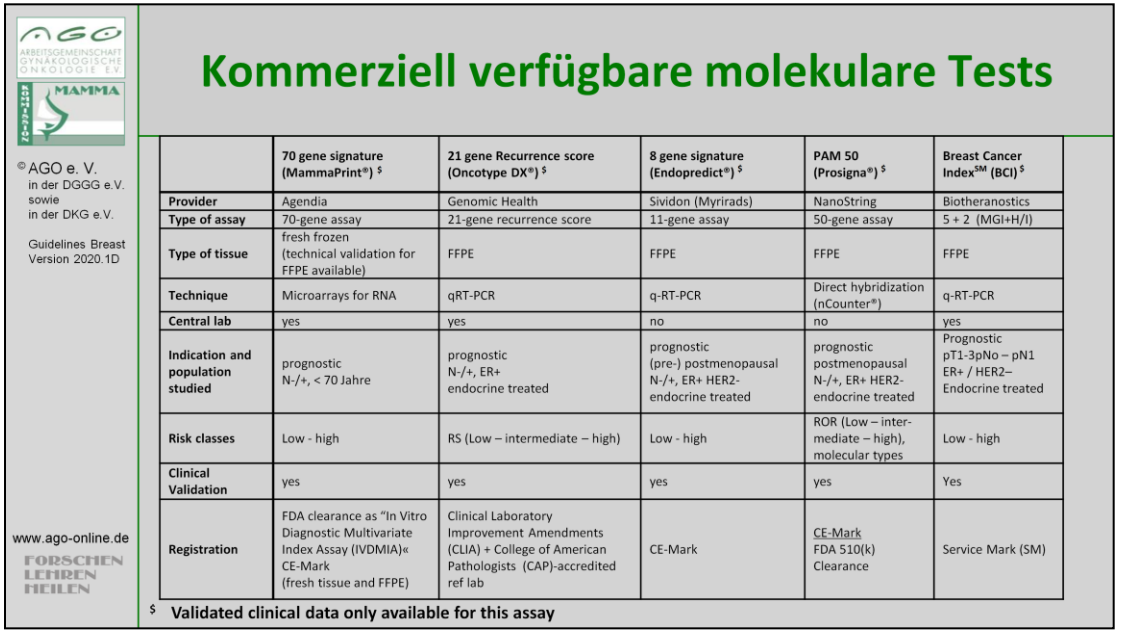

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Breast Cancer IndexSM (N0-1, HR+ HER2-) LoE 2b B AGO +/-*

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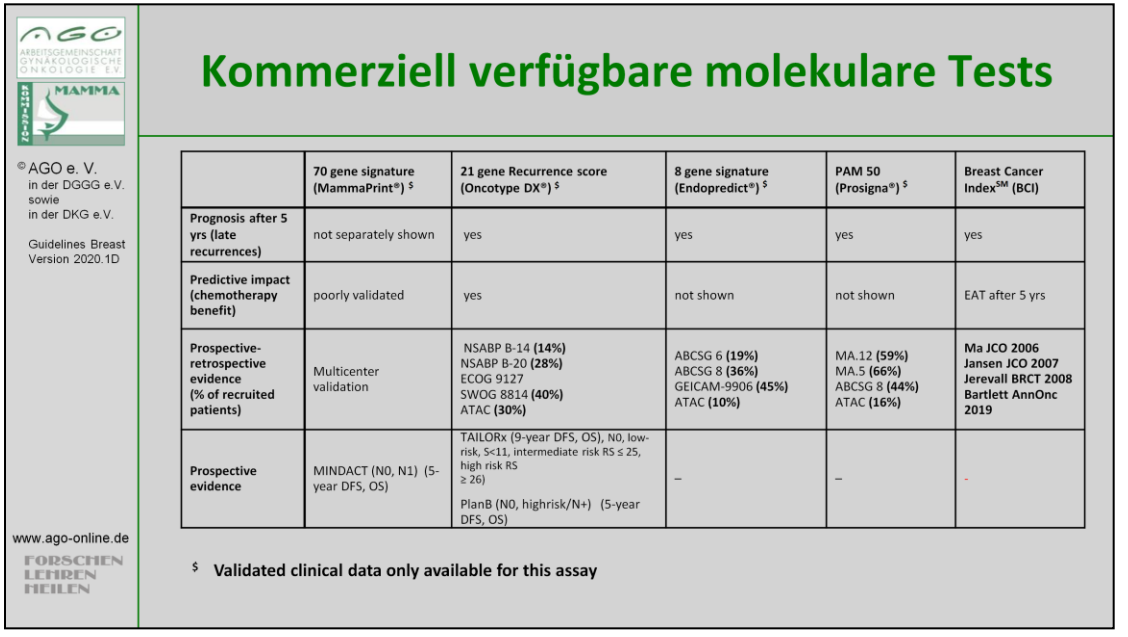

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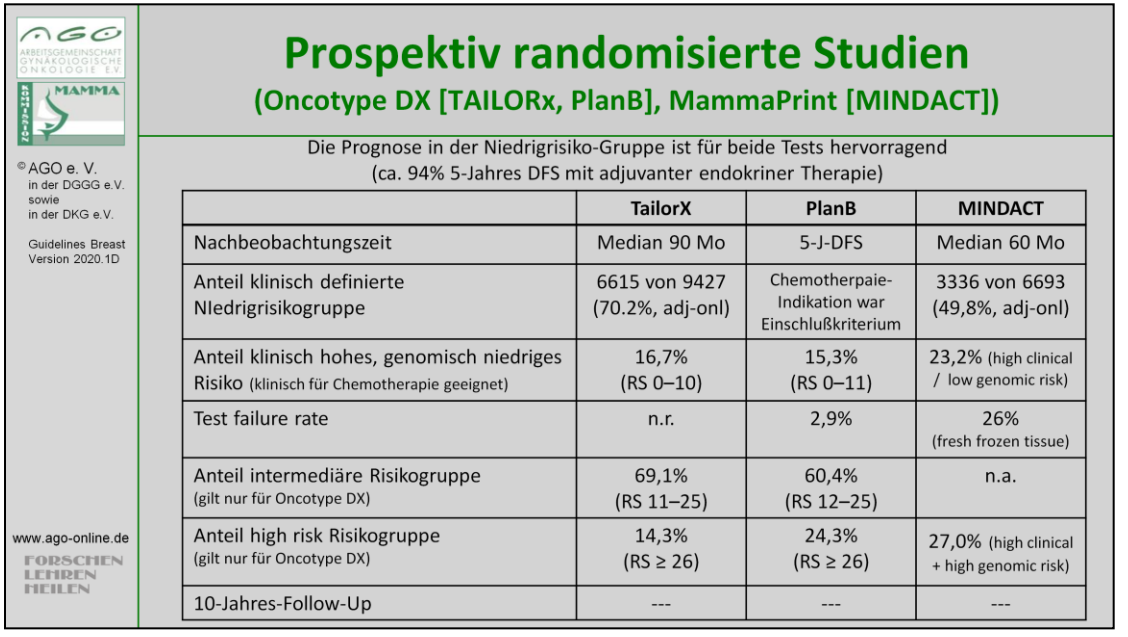

Prospektiv randomisierte Studien

(Oncotype DX [TAILORx, PlanB], MammaPrint [MINDACT])

Die Prognose in der Niedrigrisiko-Gruppe ist für beide Tests hervorragend
(ca. 94% 5-Jahres DFS mit adjuvanter endokriner Therapie)

	TailorX	PlanB	MINDACT
Nachbeobachtungszeit	Median 90 Mo	5-J-DFS	Median 60 Mo
Anteil klinisch definierte NIedrigrisikogruppe	6615 von 9427 (70.2%, adj-onl)	Chemotherpaie-Indikation war Einschlußkriterium	3336 von 6693 (49,8%, adj-onl)
Anteil klinisch hohes, genomisch niedriges Risiko (klinisch für Chemotherapie geeignet)	16,7% (RS 0–10)	15,3% (RS 0–11)	23,2% (high clinical / low genomic risk)
Test failure rate	n.r.	2,9%	26% (fresh frozen tissue)
Anteil intermediäre Risikogruppe (gilt nur für Oncotype DX)	69,1% (RS 11–25)	60,4% (RS 12–25)	n.a.
Anteil high risk Risikogruppe (gilt nur für Oncotype DX)	14,3% (RS ≥ 26)	24,3% (RS ≥ 26)	27,0% (high clinical + high genomic risk)
10-Jahres-Follow-Up	---	---	---

Mammaprint

1. Cardoso F, van't Veer LJ, Bogaerts J, et al. 70-Gene Signature as an Aid to Treatment Decisions in Early-Stage Breast Cancer. N Engl J Med. 2016 Aug 25;375(8):717-29.

Oncotype DX

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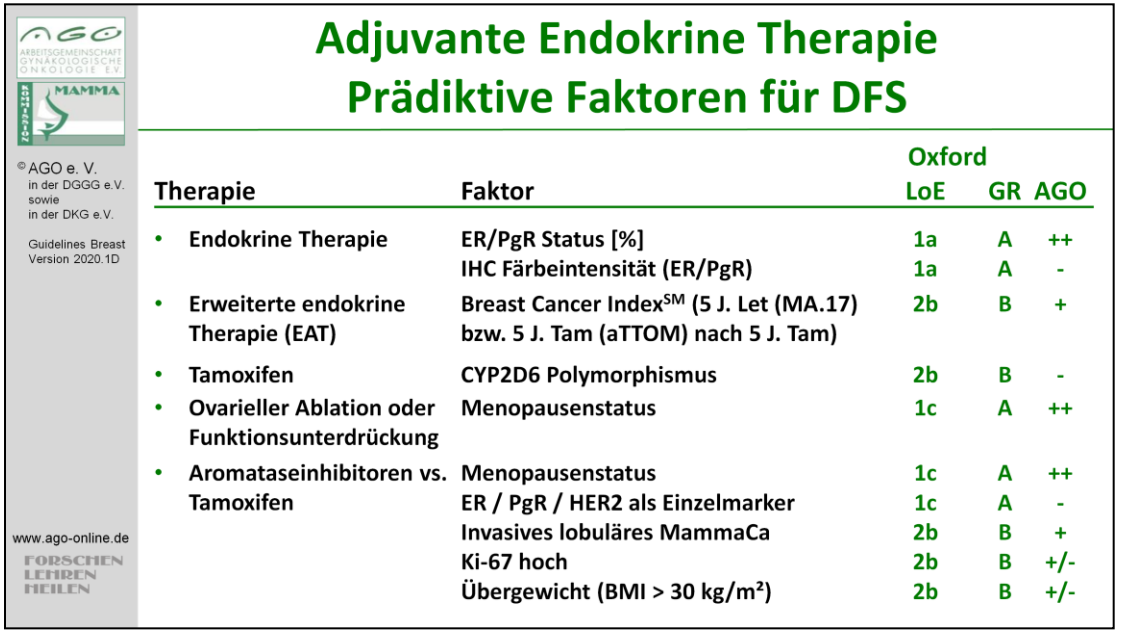

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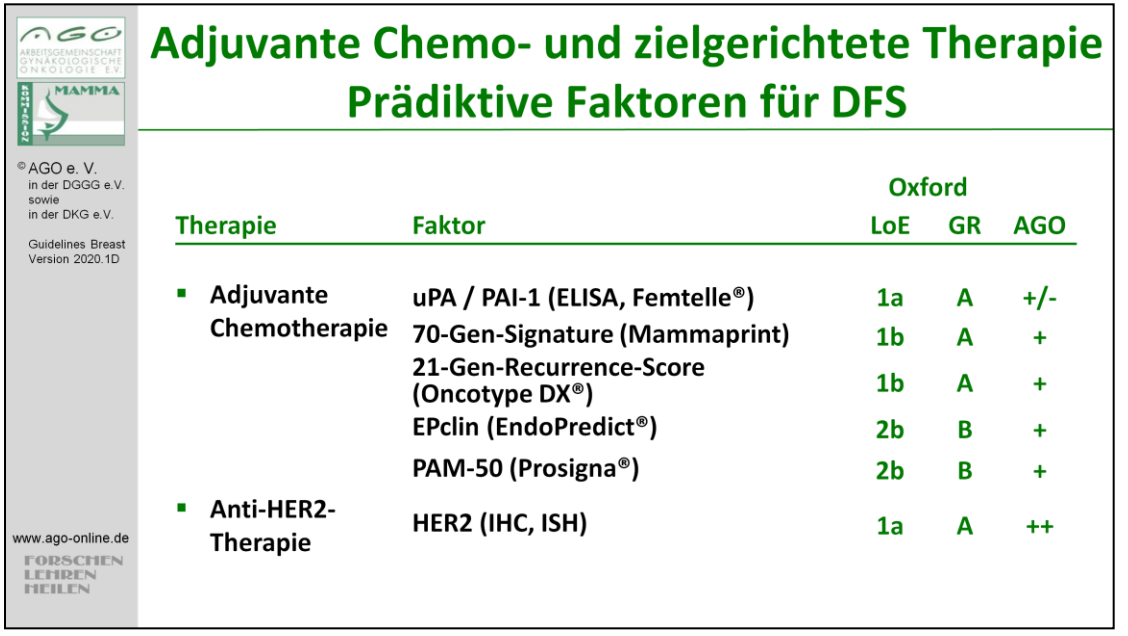

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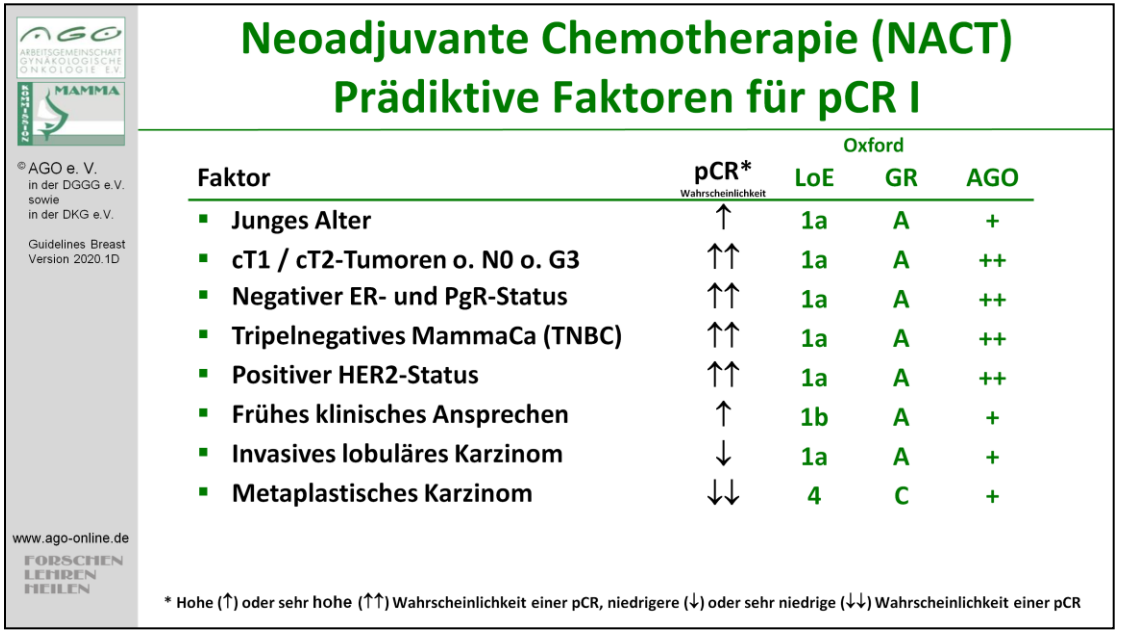

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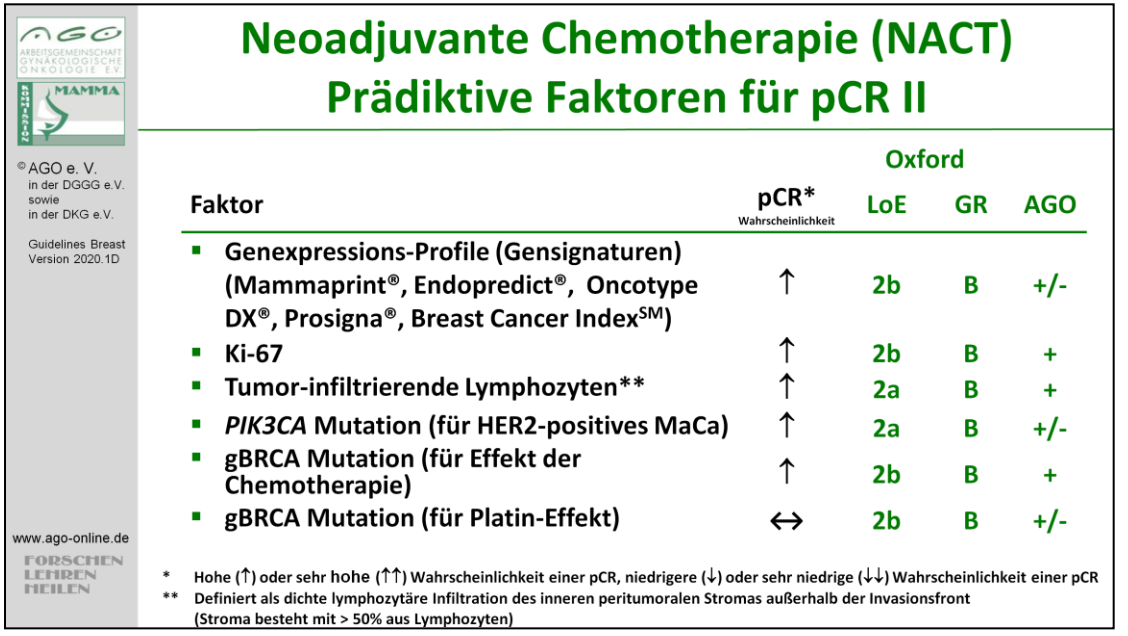

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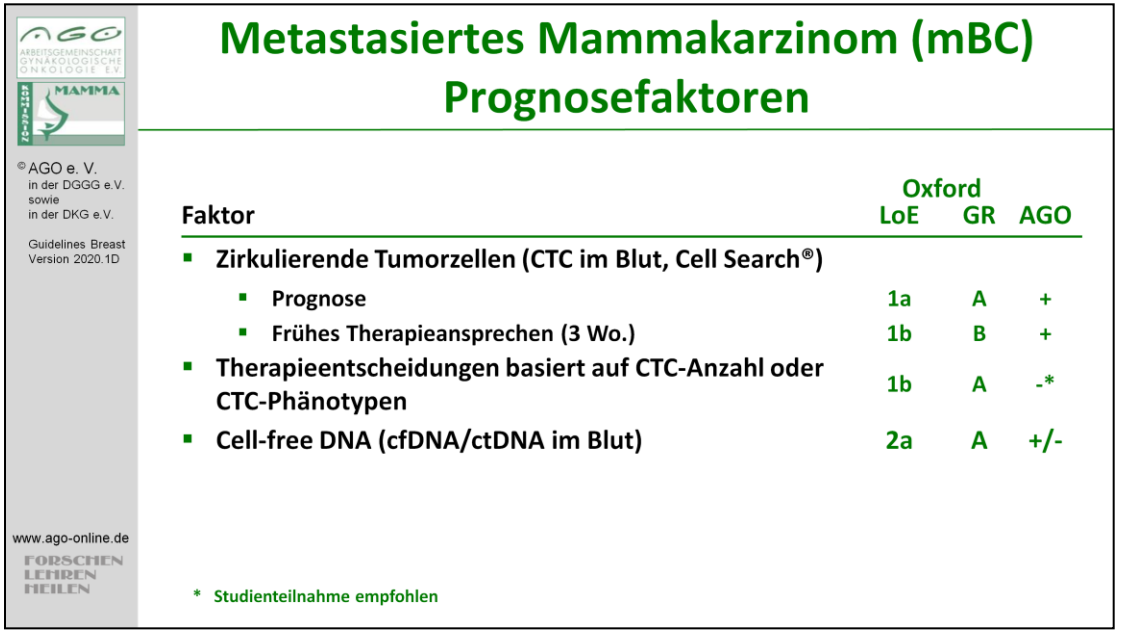

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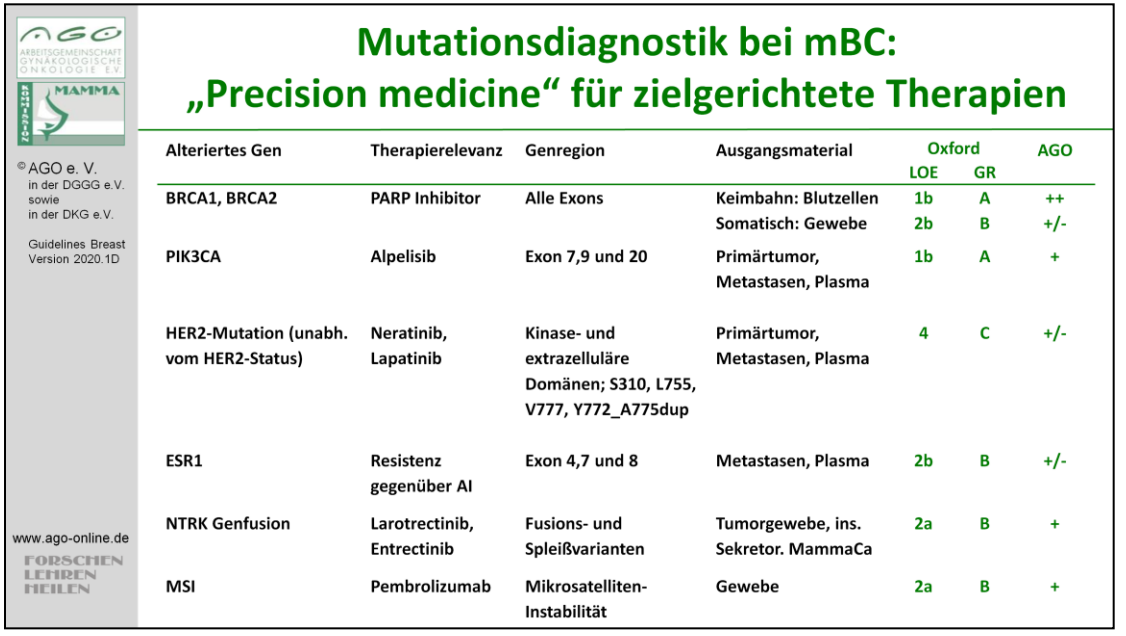

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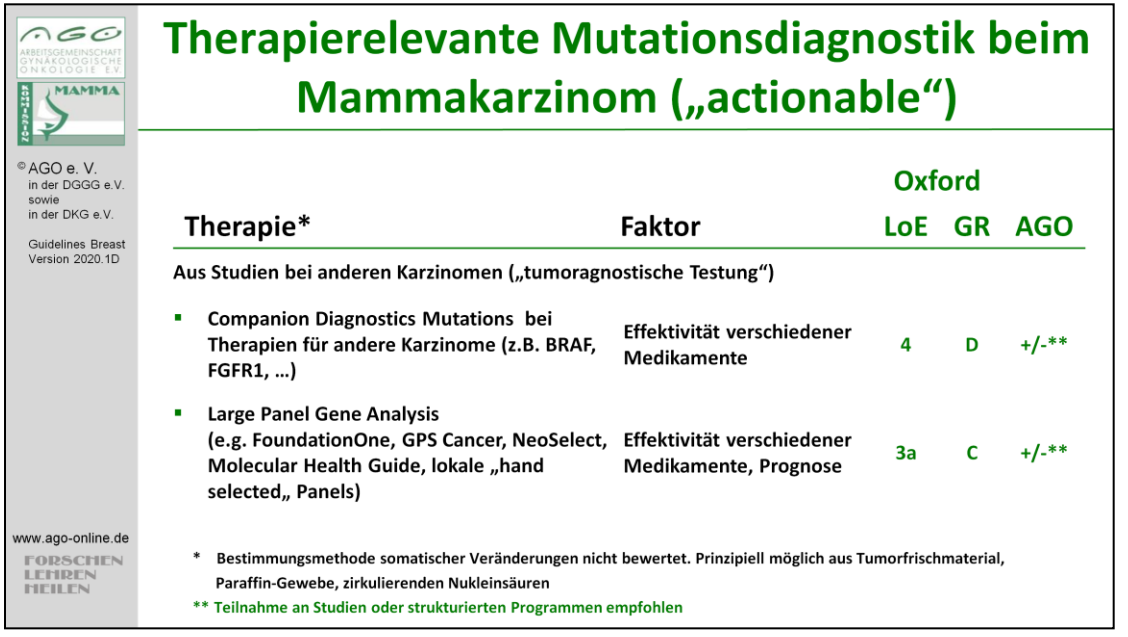

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