USZ Universitäts Spital Zürich

HCC Screening bei HBV Patienten – Welche Guideline nehmen wir?

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Swiss Young GI Summit, 04.07.2025, Resident Zürich

Allgemeines zum HCC Screening

Anforderungen an eine Screening Untersuchung:

- Einfach anzuwendender Test
- Effektive Therapie
- Überlebensvorteil im frühen Stadium
- Kosteneffizienz (<$ 50,000 / gewonnenes Lebensjahr)

Für das HCC:

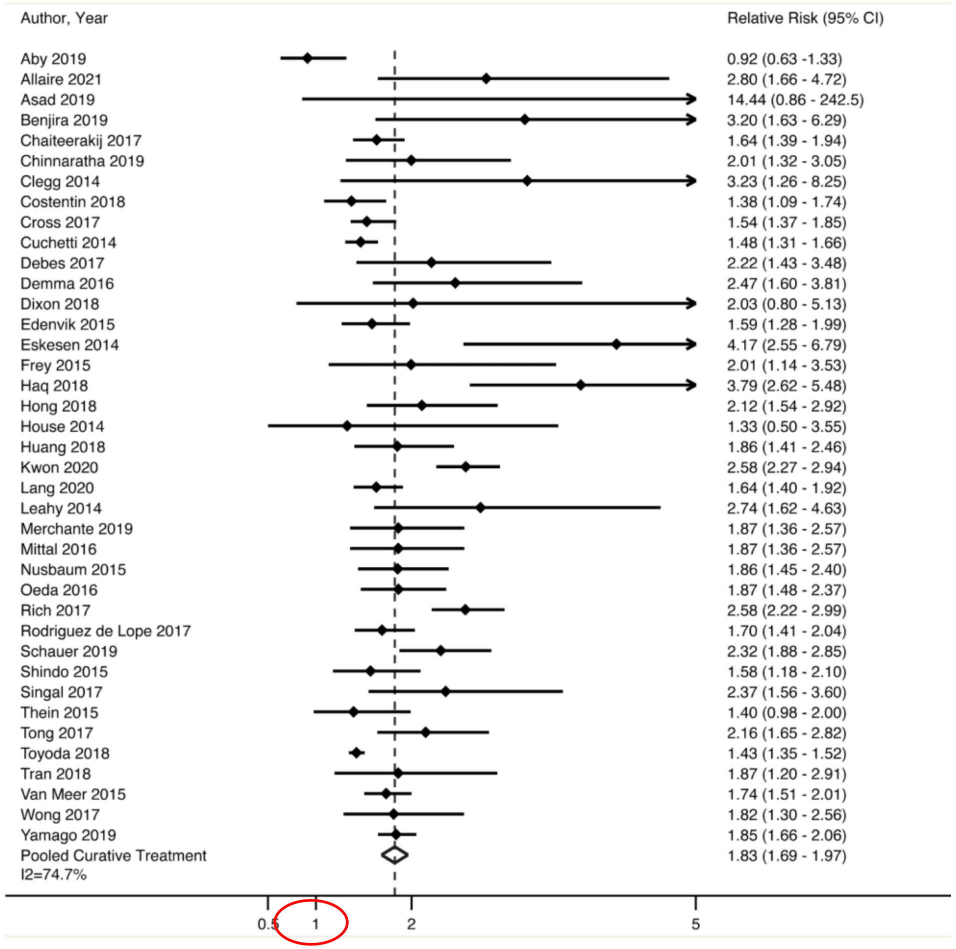
- Ultraschall +/- AFP
- Empfohlen bei jährlicher HCC Inzidenz > 0.2%

Test	Sensitivity (%)[a] (95% CI)	Specificity (%) (95% CI)	PPV (95% CI)	NPV (95% CI)
Total (n=1,597)				
AFP (cutoff value of 9ng/ml)	68.9 (64.1–73.6)	82.8 (80.7–84.9)	54.1 (49.6–58.7)	90.0 (88.3–91.8)
AFP (cutoff value of 20ng/ml)	52.9 (47.8–58.0)	93.3 (91.9–94.7)	69.8 (64.4–75.2)	87.0 (85.3–88.9)
US	92.0 (89.2–94.8)	74.2 (71.8–76.7)	51.0 (47.4–55.1)	96.9 (95.8–98.0)
US and AFP (cutoff value of 9ng/ml)	99.4 (98.7–100)	60.0 (57.2–62.7)	42.2 (38.9–45.5)	99.7 (99.3–100)
US and AFP (cutoff value of 20ng/ml)	99.2 (98.2–100)	68.3 (65.7–70.9)	47.9 (44.4–51.5)	99.6 (99.2–100)
US and AFP (cutoff value of 9ng/ml and ≥2x from nadir)	99.2 (98.2–100)	70.1 (67.5–72.7)	49.4 (45.8–53.0)	99.7 (99.3–100)
US and AFP (cutoff value of 20ng/ml and ≥2x from nadir)	99.2 (98.2–100)	71.6 (69.0–74.0)	50.6 (47.0–54.0)	99.7 (99.3–100)

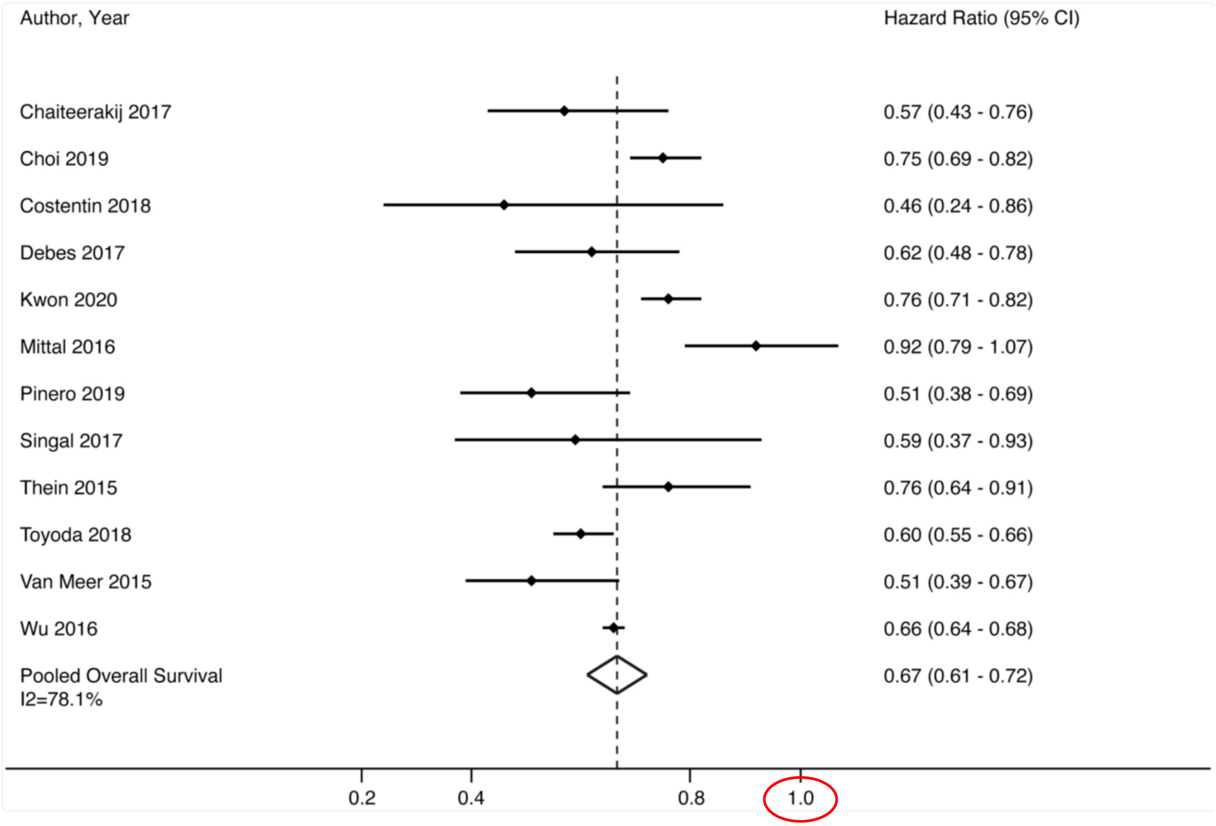
EASL CPG. 2025 May 8:S0168-8278(25)00174-6.
Chang et al. Am J Gastroenterol. 2015 Jun;110(6):836-44; quiz 845.

Allgemeines zum HCC Screening

Early Stage Diagnosis

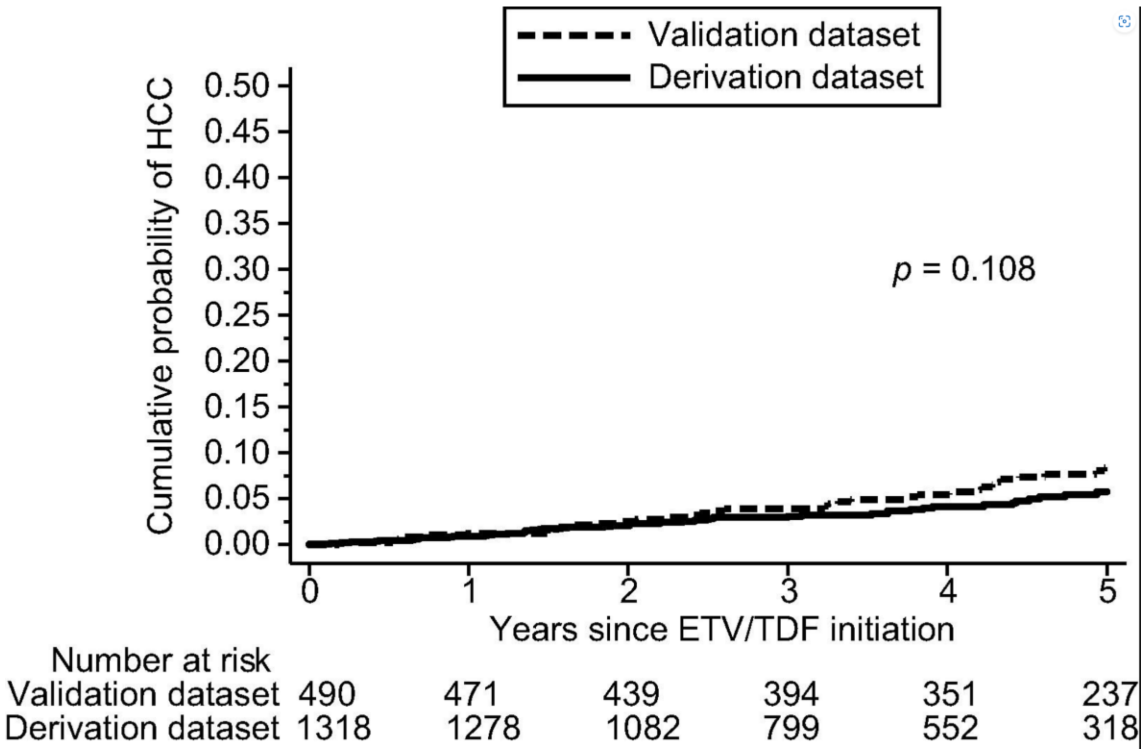


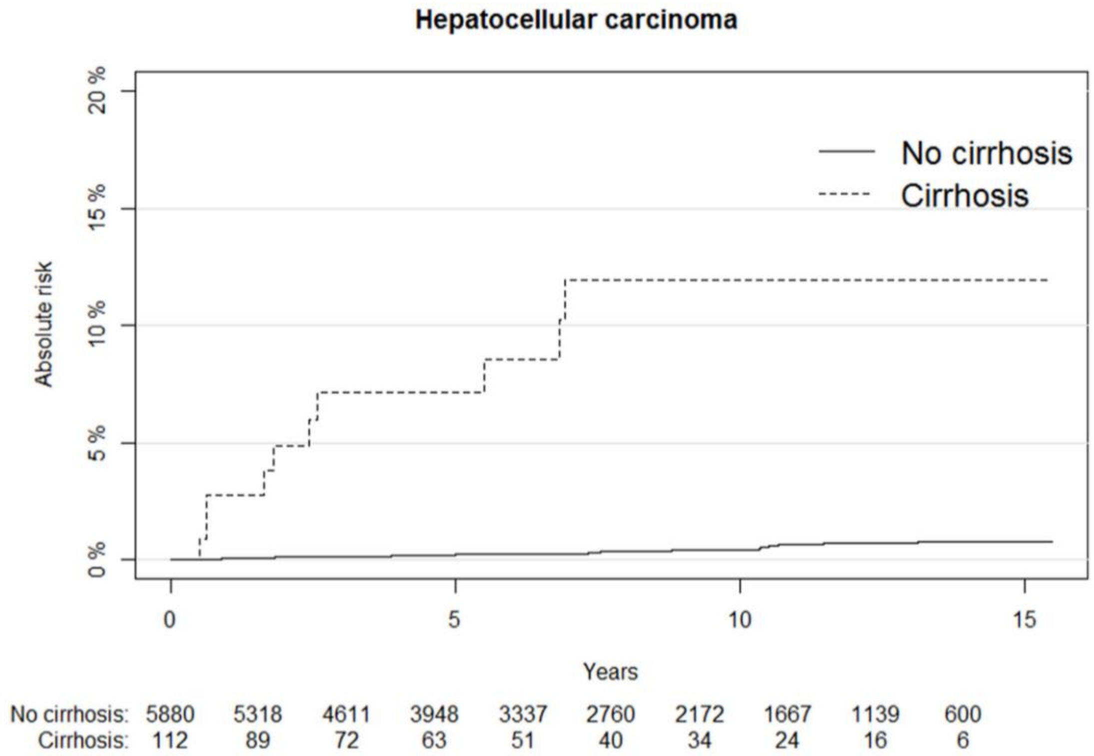
Improved Overall Survival



Singal et al. J Hepatol 2022 Jul;77(1):128-139.

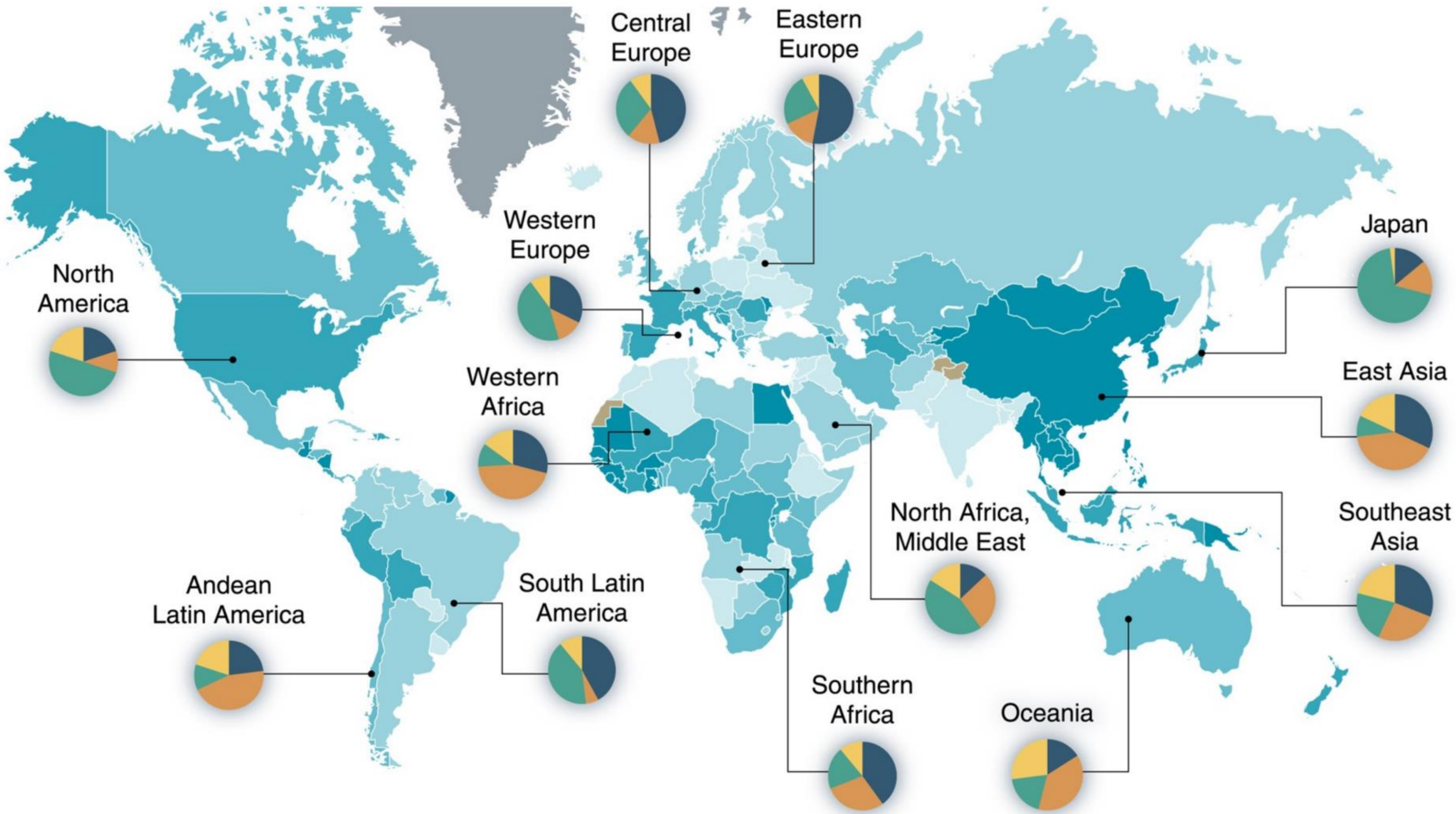
Erhöhtes HCC Risiko bei Hepatitis B





Papatheodoridis et al. J Hepatol. 2016 vol. 64 j 800–806
Bollerup et al. J Hepatocell Carcinoma. 2022:9 1093–1104

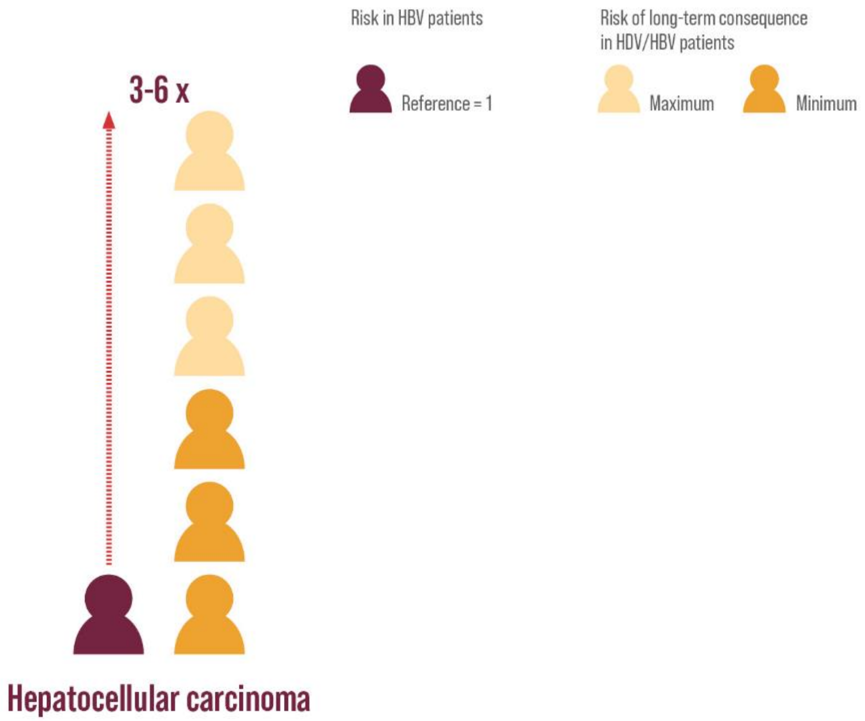
Erhöhtes HCC Risiko bei Hepatitis B



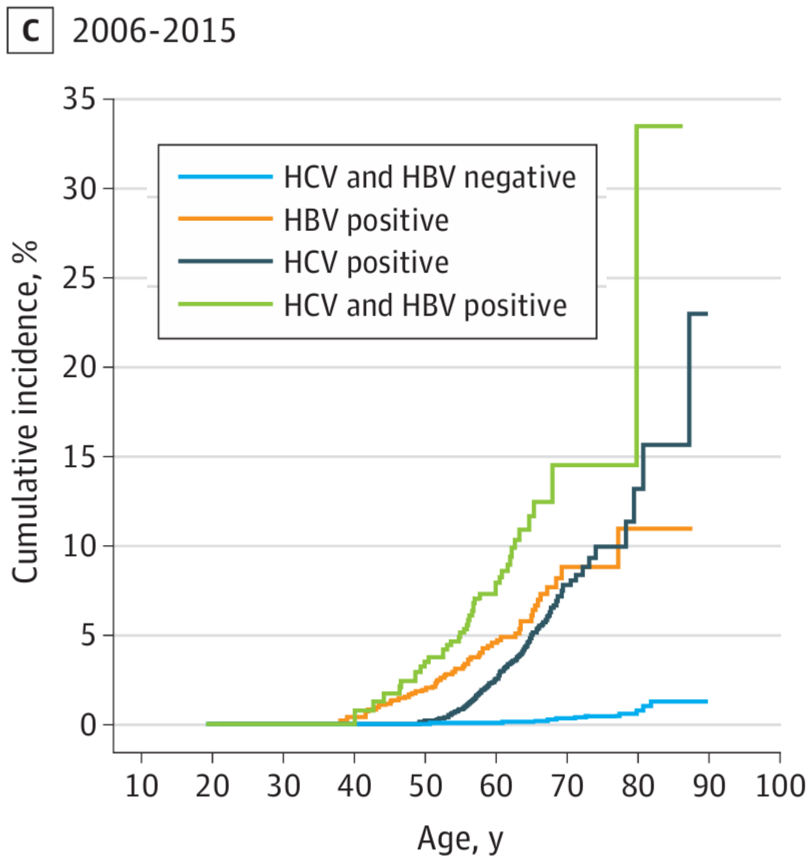
AASLD PG. Hepatology 78(6):p 1922-1965, December 2023.

Erhöhtes HCC Risiko bei Hepatitis B

Hepatitis D Koinfektion



HIV Koinfektion



Da BL, Heller T, Koh C. Gastroenterol Rep (Oxf). 2019;7(4):231-245
Sun et al. JAMA Netw. Open.2021;4(2):e2037512

Risikostratifizierung

Score	Variables	Comments and risk cut-offs
REACH-B	Age, sex, HBeAg, HBV DNA, ALT	Developed for treatment-naïve patients, Low: 0-7; Intermediate: 8-12; High: ≥13
mREACH-B	Age, sex, HBeAg, ALT, LSM	Tailored to antiviral therapy, Low: 0-5; Intermediate: 6-11; High: ≥12
PAGE-B	Age, sex, platelets	Simple risk score for NA therapy: Low: 0-9; Intermediate: 10-17; High: ≥18
mPAGE-B	Age, sex, platelets, albumin	Modified version of the original PAGE-B score: Low: 0-8; Intermediate: 9-12; High: ≥13
PAGED-B	Age, sex, platelets, HBV DNA (5-8 $\log_{10}$ IU/ml), diabetes	Modified for HBeAg-positive individuals: Low: <7; High: ≥7
CAGE-B	Age (at year 5#), baseline cirrhosis, LSM (year 5#)	Low: 0-5; Intermediate: 6-10; High: ≥11
SAGE-B	Age (at year 5#), LSM (year 5#)	Low: 0-5; Intermediate: 6-10; High: ≥11
HCC-RESCUE	Age, sex, cirrhosis	Low: 18-64; Intermediate: 65-84; High: ≥85
CAMD	Age, sex, cirrhosis, T2DM	Low: 0-7; Intermediate: 8-13; High: ≥14
AASL-HCC	Age, sex, cirrhosis, albumin	Low: 0-5; intermediate: 6-19; High: ≥20
aMAP	Age, sex, albumin, bilirubin, platelets	Low: 0-49.9; Intermediate: 50-59.9; High: ≥60
REAL-B	Age, sex, cirrhosis, platelets, alcohol, T2DM, AFP	Low: 0-3; Intermediate: 4-7; High: 8-13
GAG-HCC	Age, sex, HBV DNA, core promoter mutations, cirrhosis	Low: 0-100; High: >100
CU-HCC	Age, albumin, bilirubin, HBV DNA, cirrhosis.	Low: 0-4; Intermediate: 5-19; High ≥19
LSM-HCC	Age, serum albumin, HBV DNA, LSM	Modified version of the CU-HCC: Low: 0-10; High: 11-30
RWS-HCC	Age, sex, cirrhosis, AFP	Low: <4.5; High: ≥4.5
NGM1-HCC, NGM2-HCC	Age, sex, family history of HCC, alcohol consumption habit, ALT, HBeAg, HBV DNA, HBV genotype	Nomograms, no cut-offs

AFP, alpha-fetoprotein; ALT, alanine aminotransferase; HBeAg, hepatitis B e antigen; HBV, hepatitis B virus; HCC, hepatocellular carcinoma; LSM, liver stiffness measurement; NA, nucleos(t)ide analogue; T2DM, type 2 diabetes mellitus.
[#]at year 5 of antiviral treatment.

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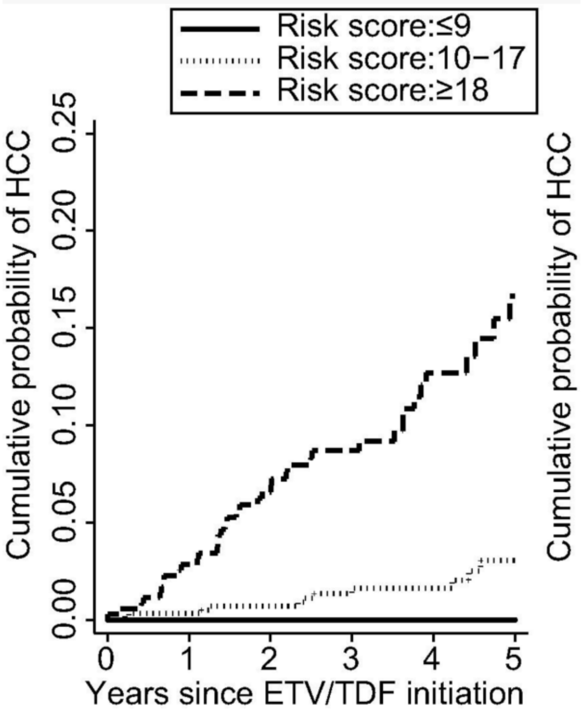
Risikostratifizierung

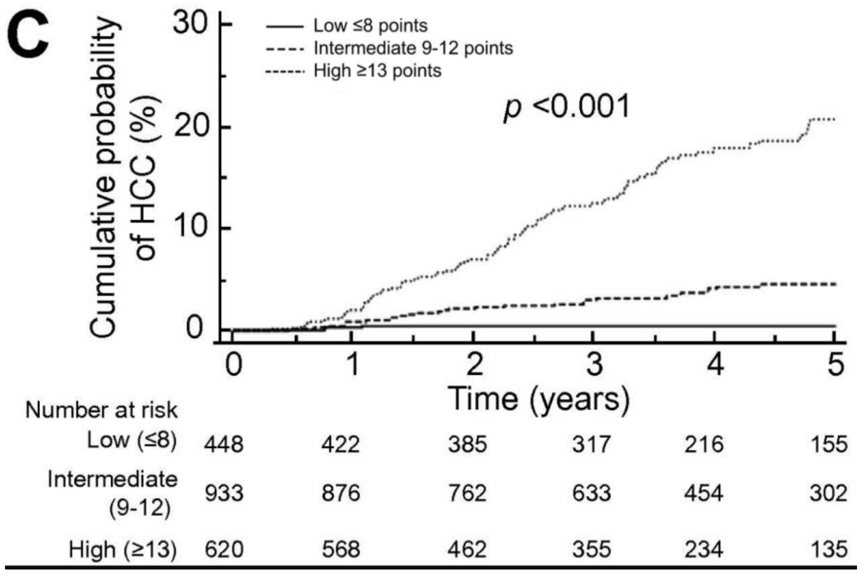
PAGE B Score

modified PAGE B Score

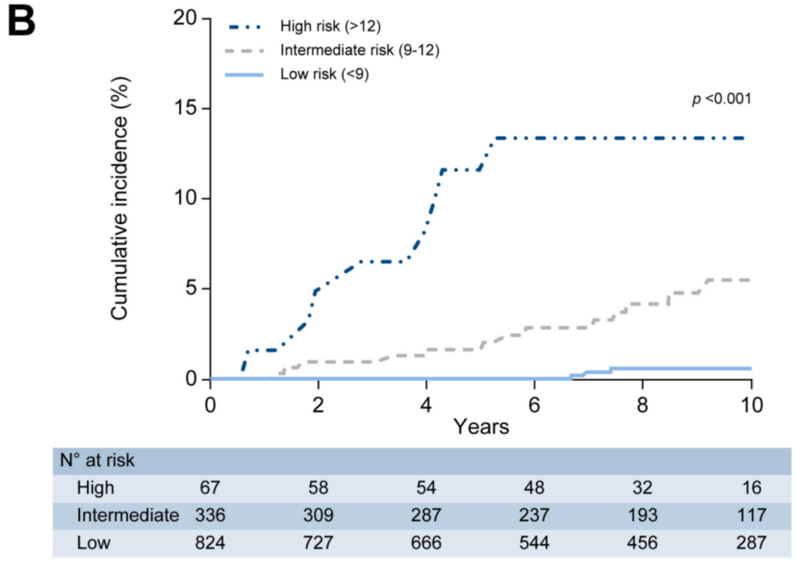
Kaukasier



Asiaten



Afro-Europäer



Papatheodoridis et al. J Hepatol. 2016 vol. 64 j 800–806
Kim et al. J Hepatol. . 2018 Nov;69(5):1066-1073.
Patmore et al. J Hepatol. 2024 Feb;80(2):243-250.

SGG vs EASL vs. AASLD

	SGG (EOS)	EASL (CPG 2025)	AASLD (PG 2023)

at risk population for surveillance	• cirrhosis
	• Caucasians with PAGE B ≥10
	• African m/w
	• Asian m >40y, w >50y
	• family history HCC
		• cirrhosis (Child A&B, C if TPL candidate)
		• Intermediate to high HCC risk
		  • PAGE B ≥10
		  • Metavir F3
		  • family history
		  • HDV co-infection
		  • Risk scores
			• cirrhosis (Child A&B, C if TPL candidate)
			• PAGE B ≥10
			• from endemic country, m >40y, w >50y
			• African >20y
			• Family history HCC

modality	US +/- AFP (CT/MRI)	US +/- AFP (CT/MRI)	US + AFP (MRI)
interval	6 monthly	6 monthly	6 monthly

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Goosens, Christian, Heim. Swiss Med Wkly. 2020;150:w20296
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Zusammenfassung

HCC Screening bei HBV+ Patienten:

- mit Zirrhose Child A&B sowie Child C, wenn TPL-Kandidat
- mit Hepatitis D Koinfektion
- nach Risikostratifizierung (PAGE B, mPAGE B, (m)REACH B)
- positive Familienanamnese

Vielen Dank für Ihre Aufmerksamkeit