

Table 10. Summary of AASLD, APASL, and EASL-EORTC guidelines for screening for hepatocellular carcinoma

Organization	Population for whom screening is recommended	Screening modality	Timeframe for screening	Levels of evidence used in guidelines	Strength of recommendation levels used in guidelines
AASLD	Patients with HBV; Patients with cirrhosis (evidence level I; recommendation NR) Patients awaiting transplant (evidence level III; recommendation NR)	Ultrasound (evidence level II; recommendation NR)	6 month intervals (evidence level II; recommendation NR) The screening interval does not need to be shortened for patients at higher risk of HCC (evidence level III; recommendation NR)	Levels of evidence were assigned according to study design: I Randomized controlled trials II-1 Controlled trials without randomization II-2 Cohort or case control analytic studies II-3 Multiple time series; dramatic uncontrolled experiments III Opinion of respected experts; descriptive epidemiology	NR
APASL	Patients with HBV or HCV and cirrhosis (evidence 2a, recommendation B)	Ultrasound and a-fetoprotein (evidence 2a; recommendation B)	6 month intervals (evidence 2a; recommendation B)	The quality of existing evidence was ranked 1 (highest) to 5 (lowest) according to the Oxford system of evidence-based approach for developing the consensus statements.	The strength of recommendations ranked from A (strongest) to D (weakest) according to the Oxford system of evidence-based approach for developing the consensus statements.
EASL-EORTC	Patients with HBV and active hepatitis or family history of HCC (evidence 1B; recommendation A1 for Asian patients; evidence 3D; recommendation C1 for Western patients); Patients with chronic hepatitis C and advanced fibrosis (evidence 3D; recommendation B1 for Asian patients; evidence 3D; recommendation B2 for Western patients); Patients with cirrhosis (evidence 3A; recommendation B1); Patients awaiting transplant (evidence 3D; recommendation 1B)	Ultrasound performed by experienced personnel (evidence 2D; recommendation 1B)	6 month intervals (evidence 2D; recommendation 1B)	(adapted from National Cancer Institute*) Level 1: Randomized controlled clinical trials or meta-analyses of randomized studies* (i) Double-blinded (ii) Non-blinded treatment delivery Level 2: Non-randomized controlled clinical trials Level 3: Case series (i) Population-based, consecutive series (ii) Consecutive cases (not population-based) (iii) Non-consecutive cases Strength of evidence according to endpoints: A. Total mortality (or overall survival from a defined time) B. Cause-specific mortality (or cause-specific mortality from a defined time) C. Carefully assessed quality of life D. Indirect surrogates (i) Event-free survival (ii) Disease-free survival (iii) Progression-free survival (iv) Tumor response rate	(adapted from the GRADE system) Grading of evidence A -High quality: Further research is very unlikely to change our confidence in the estimate of effect B -Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate C- Low or very low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate. Any estimate of effect is uncertain. Grading recommendation 1-Strong recommendation warranted: Factors influencing the strength of the recommendation included the quality of the evidence, presumed patient-important outcomes, and cost 2-Weaker recommendation: Variability in preferences and values, or more uncertainty: more likely a weak recommendation is warranted. Recommendation is made with less certainty: higher cost or resource consumption

*National Cancer Institute. PDQ_ levels of evidence for adult and pediatric cancer treatment studies. Bethesda, MD: National Cancer Institute. <http://www.cancer.gov/cancertopics/pdq/levels-evidence-adult-treatment/healthprofessional/>

Abbreviations: AASLD = American Association for the Study of Liver Diseases; APASL = Asian Pacific Association for the Study of the Liver; EASL-EORTC = European Association for the Study of the Liver/European Organisation for Research and Treatment of Cancer; NR = not reported