# Hepatocellular Carcinoma

Prevention, surveillance, diagnosis, staging, and treatment selection (resection, transplant, ablation, transarterial, systemic therapy) for HCC.

**2023 AASLD Practice Guidance**
Prevention, Diagnosis, and Treatment of HCC
Singal et al. · Hepatology 2023;78:1922–1965

STRENGTH Strong Weak

## 1 Prevention & Chemoprevention

| GS | STATEMENT | STR. |
|---|---|---|
| 1 | Public health policy/interventions to address HCC mortality burden | Strong |
| 2 | HBV vaccination in all newborns and unvaccinated high-risk adults | Strong |
| 3 | Antivirals per AASLD HBV/HCV criteria — suppression/eradication decreases HCC risk | Strong |
| 4 | Counsel healthy weight, balanced diet, avoid tobacco/alcohol, control metabolic syndrome components | Strong |
| 5 | Coffee consumption may be recommended (no established specific dose) | Weak |
| 6 | No routine statins/aspirin/metformin solely for HCC chemoprevention | Weak |

## 2 Surveillance, Recall & Diagnostic Trigger

| GS | STATEMENT | STR. |
|---|---|---|
| 7 | Surveil high-risk patients who are HCC-treatment candidates; not CTP-C unless transplant candidate; all LT-listed get semiannual surveillance; skip if life-limiting comorbidity | Strong |
| 8 | No routine surveillance: HCV post-SVR, advanced fibrosis without cirrhosis | Weak |
| 9 | No routine surveillance: NAFLD, advanced fibrosis without cirrhosis | Weak |
| 10 | US + AFP semiannually; use adherence interventions (alerts/outreach) given underuse | Strong |
| 11 | No routine CT/MRI or non-AFP biomarkers for surveillance; CE-MRI may help if US suboptimal | Weak |
| 12 | Report US visualization quality; consider CE-MRI/CT if visualization limited | Strong |
| 13 | <1 cm lesion: repeat US+AFP in 3–6 months; return to semiannual if stable ×2 | Strong |
| 14 | ≥1 cm suspicious lesion → multiphasic CT/MRI | Strong |
| 15 | AFP ≥20 ng/mL or rising AFP → multiphasic CT/MRI | Strong |

## 3 Diagnosis

| GS | STATEMENT | STR. |
|---|---|---|
| 16 | At-risk cirrhosis/HBV: diagnose via noninvasive imaging (LI-RADS) and/or pathology; AFP alone/liquid biopsy insufficient | Strong |
| 17 | No cirrhosis/no at-risk HBV: pathology required (imaging insufficiently accurate) | Strong |
| 18 | Noninvasive diagnosis via dynamic CE-MRI or multiphasic CT | Strong |
| 19 | LR-3: repeat imaging in 3–6 months | Weak |
| 20 | LR-4: multidisciplinary discussion — repeat imaging ♡ months or immediate biopsy | Strong |
| 21 | Consider biopsy for LR-4/LR-5 to confirm diagnosis/enable molecular analysis | Weak |
| 22 | Biopsy required for LR-M (risk of mixed/non-HCC malignancy) | Strong |

## 4 Staging & Multidisciplinary Care

| GS | STATEMENT | STR. |
|---|---|---|
| 23 | Stage with multiphase CT/MRI abdomen; noncontrast chest CT beyond BCLC 0; no routine PET/bone scan | Strong |
| 24 | Document tumor burden, liver dysfunction, ECOG PS at initial evaluation | Strong |
| 25 | Use the BCLC staging system | Strong |
| 26 | Multidisciplinary tumor board review (alters imaging/histologic interpretation) | Strong |
| 27 | Manage all HCC patients in a multidisciplinary care setting | Strong |

## 5 Surgical Resection & Adjuvant Therapy

| GS | STATEMENT | STR. |
|---|---|---|
| 28 | Resection = treatment of choice for localized HCC without cirrhosis | Strong |
| 29 | In cirrhosis: resection preferred if limited tumor burden, compensated cirrhosis without significant portal HTN, adequate FLR | Strong |
| 30 | Minimally invasive resection (lap/robotic) may enhance recovery in selected patients | Weak |
| 31 | Postop surveillance with CE CT/MRI every 3–6 months after resection | Strong |
| 32 | Adjuvant ICI-based therapy if high recurrence risk after resection/ablation; no neoadjuvant systemic therapy outside trials | Strong |

## 6 Liver Transplantation

| GS | STATEMENT | STR. |
|---|---|---|
| 33 | LT = treatment of choice for transplant-eligible early-stage HCC with significant portal HTN/decompensated cirrhosis, or Milan-recurrence after resection | Strong |
| 34 | Pre-transplant locoregional bridging therapy reduces waitlist dropout if adequate hepatic reserve; no preferred modality; no routine systemic bridging | Strong |
| 35 | Decompensated cirrhosis + T1 HCC, LT-eligible: imaging q3mo until MELD exception met before LRT; immediate LRT if AFP markedly elevated or not LT-eligible otherwise | Weak |
| 36 | Downstage to within Milan (UNOS criteria) after 3–6 month observation → consider LT; AFP >1000 must downstage to <500 | Strong |
| 37 | Post-transplant recurrence surveillance: multiphasic CT/MRI + chest CT; optimal timing uncertain | Strong |

## 7 Local Ablative & Radioembolization Therapy

| GS | STATEMENT | STR. |
|---|---|---|
| 38 | Solitary tumors ≤5 cm: curative-intent local ablation if ineligible/decline surgery | Strong |
| 39 | Thermal ablation (RFA/MWA) = treatment of choice for early-stage HCC ≤3 cm ineligible/declining surgery | Strong |
| 40 | Radioembolization (radiation segmentectomy) or EBRT as alternatives for BCLC A not candidates for resection (incl. >3 cm) | Strong |

## 8 Transarterial Therapy — BCLC Stage B

| GS | STATEMENT | STR. |
|---|---|---|
| 41 | Transarterial chemoembolization (TACE) for BCLC Stage B | Strong |
| 42 | Radioembolization as alternative to TACE for BCLC Stage B | Strong |
| 43 | Selective/segmental (not lobar) transarterial therapy preferred — lower hepatic dysfunction risk | Strong |
| 44 | No combination of systemic + transarterial therapy for BCLC B outside trials | Strong |
| 45 | Systemic therapy for intermediate HCC unsuitable/refractory to locoregional therapy | Strong |

## 9 Systemic Therapy & Advance Care Planning

| GS | STATEMENT | STR. |
|---|---|---|
| 46 | Preserved liver function (CTP A or select CTP B), ECOG 0–1, BCLC C or B not amenable/progressing: first-line atezolizumab+bevacizumab or durvalumab+tremelimumab (CTP A) — EGD for varices before atezo+bev; sorafenib/lenvatinib if ICI combo contraindicated | Strong |
| 47 | Select CTP B: sorafenib, lenvatinib, or single-agent anti-PD1/PDL1 ICI | Weak |
| 48 | Second-line if preserved liver function + progression/intolerance on first-line: sorafenib/lenvatinib after ICI combo; cabozantinib/regorafenib (or ramucirumab if AFP≥400) after TKI | Strong |
| 49 | No ICIs for recurrent HCC after liver transplant (graft-loss/death risk) — use sorafenib/lenvatinib first-line instead | Strong |
| 50 | Offer advance care planning to all patients on palliative-intent therapy or best supportive care, regardless of transplant eligibility | Weak |

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