Simplified HCV Treatment Algorithm for Treatment Naive Children and Adolescents Without Cirrhosis

WHO IS ELIGIBLE FOR SIMPLIFIED TREATMENT?

Children and adolescents ≥3 to <18 years without cirrhosis

WHO IS *NOT* ELIGIBLE FOR SIMPLIFIED TREATMENT?

Patients with any of the following:

- Prior hepatitis C treatment
- Child-Turcotte-Pugh (CTP) ≥7
- HIV or HBsAg positive
- Current pregnancy
- Known or suspected hepatocellular carcinoma
- Prior liver transplantation

PRETREATMENT ASSESSMENT

- **Calculate Fibrosis-4 Index (F-4)**
- **Determine Child-Turcotte-Pugh (CTP) class**
- **Cirrhosis assessment:** liver biopsy not required. Child is presumed to have cirrhosis if they have a FIB-4 score >3.25, CTP ≥7, previously performed transient elastography indicating cirrhosis or prior liver biopsy showing cirrhosis
- **Medication reconciliation:** record current medications, including over-the-counter drugs and herbal/dietary supplements
- **Potential drug-drug interaction assessment:** using the University of Liverpool drug interaction checker
- **Education:** Educate the patient/family about proper administration of medications, adherence, and prevention of reinfection
- **Pretreatment laboratory testing**

  Within 6 months of initiating treatment:
  - Complete blood count (CBC)
  - Hepatic function panel (i.e., albumin, total and direct bilirubin, alanine aminotransferase (ALT), and aspartate aminotransferase (AST)
  - INR
  - Calculated glomerular filtration rate (eGFR)

  Any time prior to starting antiviral therapy:
  - Quantitative HCV PCR/RNA (HCV viral load)
  - HIV antigen/antibody test
  - Hepatitis B surface antigen

  Before initiating antiviral therapy:
  - Serum pregnancy test and counseling about pregnancy risks of HCV medication

*Adapted from **HCV Guidance: Recommendations for Testing, Managing, and Treating Hepatitis C** by the American Association for the Study of Liver Diseases and the Infectious Disease Society of America. Updated: September 29, 2021. More detailed descriptions of the patient evaluation process and antivirals used for HCV treatment, including the treatment of patients with decompensated cirrhosis available at www.hcvguidelines.org

RECOMMENDED REGIMENS LISTED BY AGE

RECOMMENDED	DURATION
Combination of glecaprevir/pibrentasvir (weight-based dosing; see Table 1) for children ≥3 years with any genotype	8 weeks
Combination of sofosbuvir/velpatasvir (weight-based dosing; see Table 2) for children ≥3 years with any genotype	12 weeks
Combination of ledipasvir/sofosbuvir (weight-based dosing; see Table 3) for children ≥3 years with genotype 1, 4, 5, or 6	12 weeks

Table 1: Weight-based dosing of glecaprevir/pibrentasvir for children ≥3 years of age

Body Weight	Once Daily Dose of Glecaprevir/Pibrentasvir
<20 kg	150 mg/60 mg
≥20 kg to <30 kg	200 mg/80 mg
≥30 kg to <45 kg	250 mg/100 mg
45 kg and greater or 12 years of age and older	300 mg / 120 mg / day

Table 2: Weight-based dosing for sofosbuvir/velpatasvir for children ≥ 3 years of age

Body Weight	Once Daily Dose of Sofosbuvir/Velpatasvir
< 17 kg	150 mg/37.5 mg
17 - < 30 kg	200 mg/50 mg
≥30 kg	400 mg/100 mg

Table 3. Weight-based dosing of ledipasvir/sofosbuvir for children ≥3 years of age

Body Weight	Once Daily Dose of Ledipasvir/Sofosbuvir
<17 kg	33.75 mg/150 mg
17 to <35 kg	45 mg/200 mg
≥35 kg	90 mg/400 mg per day

ON-TREATMENT MONITORING

- Monitor for hypoglycemia for patients taking diabetes medications
- Monitor INR of individuals taking anticoagulants for subtherapeutic anticoagulation
- No laboratory monitoring is required for other patients
- An in-person or telehealth/phone visit may be scheduled, if needed, for patient/family support, assessment of symptoms, and/or new medications

POST-TREATMENT ASSESSMENT OF CURE (SVR)

- Assessment of quantitative HCV RNA and a hepatic function panel 12 weeks or later following completion of therapy to confirm HCV RNA is undetectable and transaminase normalization.
- Assessment for other causes of liver disease is recommended for those with elevated transaminase levels after achieving SVR

FOLLOW-UP AFTER VIROLOGIC CURE (SVR)

- No liver-related follow-up needed for noncirrhotic patients who achieve SVR.
- Those with ongoing risk for HCV infection (e.g., injection drug use or MSM engaging in condomless sex) should be counseled about risk reduction and tested for HCV RNA annually, and whenever the develop elevated ALT, AST, or bilirubin.
- Advise adolescents to avoid excess alcohol use

FOLLOW-UP FOR THOSE WHO DO NOT ACHIEVE VIROLOGIC CURE

- Those who fail to achieve SVR should be evaluated for retreatment by a specialist.
- Until retreatment occurs, assessment for disease progression every 6–12 months with a hepatic function panel, CBC and INR is recommended.
- Advise adolescents to avoid excess alcohol use

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