**Chronic Hepatitis C Treatment and Monitoring Algorithm: Direct Antiviral Agent (DAA) Combination**

**Diagnosis of chronic hepatitis C virus infection, including baseline measurement of HCV viral load:**
- **HCV Quantitative (HCVQN)** / Hepatitis C Virus (HCV) RNA Detection and Quantification by Real-Time Reverse Transcription-PCR (RT-PCR), Serum
- **HCV Genotype** / Hepatitis C Virus (HCV) RNA Quantification with Reflex to HCV Genotype, Serum

**If HCV RNA level is ≥500 IU/mL,**
- Order: **HCV Quantitative (HCVQN)** / Hepatitis C Virus (HCV) RNA Detection and Quantification by Real-Time Reverse Transcription-PCR (RT-PCR), Serum
- Test will be performed automatically

**If HCV RNA level is <500 IU/mL,**
- Order: **HCV Quantitative (HCVQN)** / Hepatitis C Virus (HCV) RNA Detection and Quantification by Real-Time Reverse Transcription-PCR (RT-PCR), Serum
- If clinically indicated

**Undetectable HCV RNA**
- Genotype 1a, 1b, or 3
- Genotype 2, 4, 5 or 6

**HCV RNA detected (any level)**
- At 4 weeks of treatment: repeat **HCV Quantitative (HCVQN)**
- Start DAA combination therapy (per current guidelines)

**Order:** **HCV Genotype** / Hepatitis C Virus Genotype, Serum

**Decision made to start DAA therapy**
- Genotype 1a, 1b, or 3
- Genotype 2, 4, 5 or 6

**Noninvasive elastography or liver biopsy to determine stage of liver fibrosis at baseline**

**Order:** **HCV Genotypic Antiviral Drug Resistance** / Hepatitis C Virus Genotypic Antiviral Drug Resistance, Serum (requires minimum HCV RNA levels of ≥50,000 IU/mL)

**Continue monitoring patient for:**
- Liver function
- HCV viral load
- Clinical symptoms

**SVR achieved at 12 weeks (SVR12)**
- At end of treatment (8 or 12 weeks total) repeat **HCV Quantitative (HCVQN)**
- Undetectable HCV RNA

**SVR achieved at 24 weeks (SVR24)**
- At end of treatment (8 or 12 weeks total) repeat **HCV Quantitative (HCVQN)**
- Undetectable HCV RNA

**HCV RNA detected (any level)**
- At 24 weeks after treatment ended, repeat **HCV Quantitative (HCVQN)** (to verify SVR)
- SVR achieved at 24 weeks (SVR24)

**relapser**
- HCV RNA detected (any level)

**HCV RNA detected (any level)**
- At 24 weeks after treatment ended, repeat **HCV Quantitative (HCVQN)**
- SVR achieved at 24 weeks (SVR24)
- Relapser

**HCV RNA detected but not quantifiable**
- No recommendations per current guidelines

**HCV RNA of >10x the level at week 4 of treatment**
- Nonresponder

**SVR achieved at 12 weeks (SVR12)**
- At 12 weeks after treatment ended, repeat **HCV Quantitative (HCVQN)** for “sustained virologic response” (SVR)
- Undetectable HCV RNA

**HCV RNA detected (any level)**
- At 12 weeks after treatment ended, repeat **HCV Quantitative (HCVQN)**
- HCV RNA detected (any level)

**HCV RNA detected (any level)**
- At 6 weeks of treatment, repeat **HCV Quantitative (HCVQN)**
- HCV RNA detected (any level)

**HCV RNA detected (any level)**
- At end of treatment (8 or 12 weeks total) repeat **HCV Quantitative (HCVQN)**
- Nonresponder

**Order:** **HCV Genotypic Antiviral Drug Resistance** / Hepatitis C Virus Genotypic Antiviral Drug Resistance, Serum (requires minimum HCV RNA levels of ≥50,000 IU/mL)

**Treatment failure**
- STOP treatment

**Nonresponder**
- HCV RNA detected (any level)

**Nonresponder**
- If considering retreatment with DAA therapy, order **HCV Genotypic Antiviral Drug Resistance** when HCV RNA level is ≥50,000 IU/mL

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* www.hcvguidelines.org

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