

**American College of Radiology
ACR Appropriateness Criteria®
Abnormal Liver Function Tests**

Variant 1: **Abnormal liver function tests. Hepatocellular predominance with mild aminotransferase increase. Initial imaging.**

| Procedure | Appropriateness Category | Relative Radiation Level |
|--|--------------------------|--------------------------|
| US abdomen | Usually Appropriate | ○ |
| US duplex Doppler abdomen | Usually Appropriate | ○ |
| US shear wave elastography abdomen | May Be Appropriate | ○ |
| MR elastography abdomen | May Be Appropriate | ○ |
| MRI abdomen without and with IV contrast with MRCP | May Be Appropriate | ○ |
| MRI abdomen without IV contrast with MRCP | May Be Appropriate | ○ |
| CT abdomen and pelvis without IV contrast | May Be Appropriate | ⦿⦿⦿ |
| US abdomen with IV contrast | Usually Not Appropriate | ○ |
| CT abdomen and pelvis with IV contrast | Usually Not Appropriate | ⦿⦿⦿ |
| CT abdomen and pelvis without and with IV contrast | Usually Not Appropriate | ⦿⦿⦿⦿ |

Variant 2: **Abnormal liver function tests. Hepatocellular predominance with moderate or severe aminotransferase increase. Initial imaging.**

| Procedure | Appropriateness Category | Relative Radiation Level |
|--|--------------------------|--------------------------|
| US abdomen | Usually Appropriate | ○ |
| US duplex Doppler abdomen | Usually Appropriate | ○ |
| CT abdomen and pelvis with IV contrast | Usually Appropriate | ⦿⦿⦿ |
| MRI abdomen without and with IV contrast with MRCP | May Be Appropriate | ○ |
| MRI abdomen without IV contrast with MRCP | May Be Appropriate | ○ |
| CT abdomen and pelvis without IV contrast | May Be Appropriate | ⦿⦿⦿ |
| US abdomen with IV contrast | Usually Not Appropriate | ○ |
| US shear wave elastography abdomen | Usually Not Appropriate | ○ |
| MR elastography abdomen | Usually Not Appropriate | ○ |
| CT abdomen and pelvis without and with IV contrast | Usually Not Appropriate | ⦿⦿⦿⦿ |

Variant 3:

Abnormal liver function tests. Cholestatic predominance. Elevated alkaline phosphatase with or without elevated gamma-glutamyl transpeptidase. Initial imaging.

| Procedure | Appropriateness Category | Relative Radiation Level |
|--|--------------------------|--------------------------|
| US abdomen | Usually Appropriate | ○ |
| MRI abdomen without and with IV contrast with MRCP | Usually Appropriate | ○ |
| CT abdomen and pelvis with IV contrast | Usually Appropriate | ⦿⦿⦿ |
| US duplex Doppler abdomen | May Be Appropriate | ○ |
| MRI abdomen without IV contrast with MRCP | May Be Appropriate | ○ |
| CT abdomen and pelvis without IV contrast | May Be Appropriate | ⦿⦿⦿ |
| US abdomen with IV contrast | Usually Not Appropriate | ○ |
| US shear wave elastography abdomen | Usually Not Appropriate | ○ |
| MR elastography abdomen | Usually Not Appropriate | ○ |
| CT abdomen and pelvis without and with IV contrast | Usually Not Appropriate | ⦿⦿⦿⦿ |

Variant 4:

Abnormal liver functions tests. Hyperbilirubinemia. Acute or subacute cholestasis. Conjugated or unconjugated. Initial imaging.

| Procedure | Appropriateness Category | Relative Radiation Level |
|--|--------------------------|--------------------------|
| US abdomen | Usually Appropriate | ○ |
| MRI abdomen without and with IV contrast with MRCP | Usually Appropriate | ○ |
| MRI abdomen without IV contrast with MRCP | Usually Appropriate | ○ |
| CT abdomen and pelvis with IV contrast | Usually Appropriate | ⦿⦿⦿ |
| CT abdomen and pelvis without IV contrast | May Be Appropriate | ⦿⦿⦿ |
| US abdomen with IV contrast | Usually Not Appropriate | ○ |
| US duplex Doppler abdomen | Usually Not Appropriate | ○ |
| US shear wave elastography abdomen | Usually Not Appropriate | ○ |
| MR elastography abdomen | Usually Not Appropriate | ○ |
| CT abdomen and pelvis without and with IV contrast | Usually Not Appropriate | ⦿⦿⦿⦿ |