Focal liver lesions are evaluated on T1-weighted in-phase and out of phase, T2-weighted fat saturated and dynamic contrast enhanced images.

**Fat containing lesions** reveal decreased signal on out of phase images compared to in phase T1 weighted images and include Angiomyolipoma, HCC, Adenoma, Metastases, FNH, Lipoma, Liposarcoma. Lesions containing only fat will not reveal signal drop out on out of phase images. Lesions containing fat and soft tissue will reveal signal drop out on out of phase images.

**Cystic lesions** appear hyperintense on T2-weighted images and reveal hypointense signal on T1-weighted images. Simple cystic lesions show no or negligible enhancement on postcontrast images and contain imperceptible wall. Simple cystic lesions are mostly benign. Biliary hamartomas and bilomas may mimic simple cysts, but may have wall enhancement in distinction. Complex cystic lesions have internal debris, thick enhancing wall, internal septations and mural nodules. Complex cystic lesions include abscess, biliary cystadenomas, hematomas, hydatid cysts and necrotic neoplasms.

**Nonenhancing lesions** do not exhibit enhancement in any phase of serial contrast enhanced images. They are cystic lesions and treated metastases or focal infarctions. **Hypoenhancing/hypovascular lesions** include metastases, lymphoma, regenerative nodules or primary liver/biliary tumors such as HCC and cholangiocarcinoma. **Hypervascular lesions** reveal strong arterial enhancement with either wash-out or fade on portal-late venous phases. Lesions with early enhancement include HCC, Adenoma, Flash-fill hemangioma, FNH, hypervascular metastases, Angiosarcoma or Arterioportal shunts. **Progressively enhancing lesions** enhance increasingly from arterial to delayed phase images. Examples of progressively enhancing liver lesions include Hemangioma, Cholangiocarcinoma, Metastasis, Peliosis Hepatis and Focal fibrosis.

**Diffusion weighted MRI** may contribute additional information for the detection and characterization of focal hepatic lesions in inconclusive cases. Complex cystic lesions have different ADC values and ADC values may be helpful do distinguish between benign and malignant disease processes.

**Hepatobiliary contrast agents** can increase the detection rate of hypervascular lesions with their higher T1 relaxivity in arterial phase images. Hepatobiliary phase images can help to distinguish between FNH and Adenoma with the increased contrast uptake of FNH in contrast to hepatic adenoma with negligible hepatobiliary contrast enhancement.