Liver Cancer: The Silent Killer

Hepatitis B Patient Forum, September 20 2025

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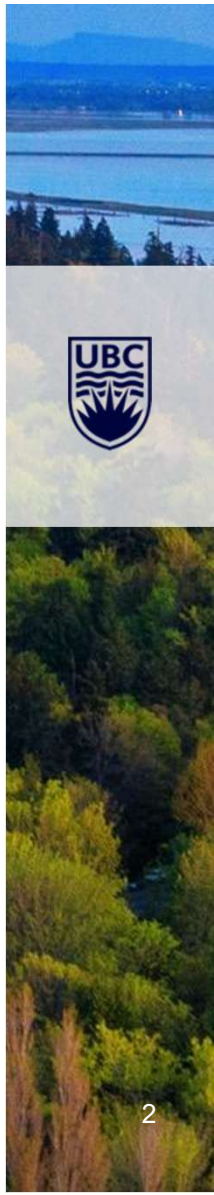
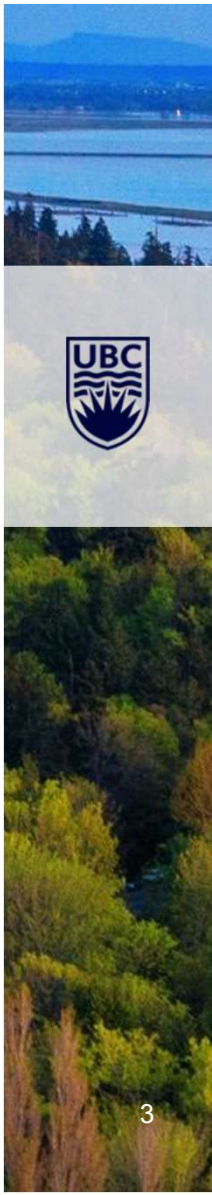
Disclosure

- No financial disclosures relevant to this talk

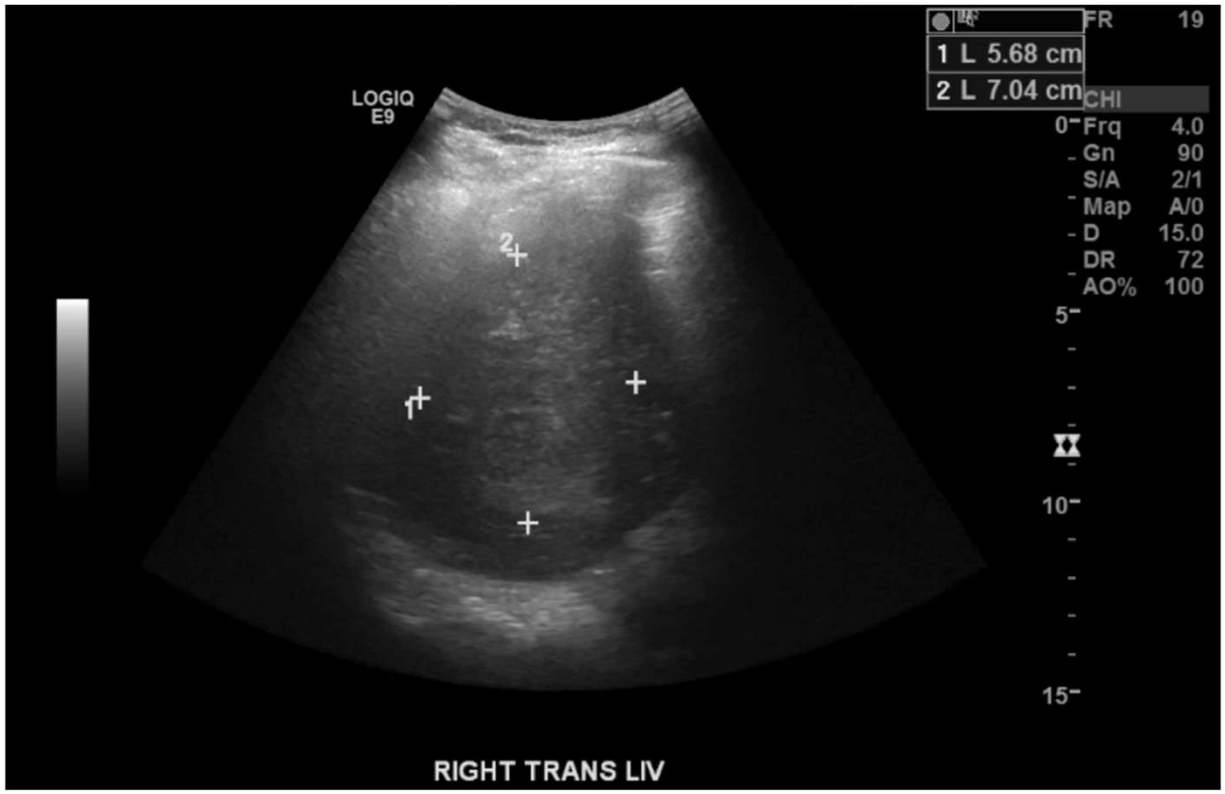


Case

- 65 year-old man
- Past Medical History: Chronic Hepatitis B infection
- Diagnosed with Hepatitis B many years ago, has been aware of the diagnosis, but has not had a regular family doctor, or follow up in over 5 years.
- Presents to hospital with abdominal pain
- An ultrasound is performed



Ultrasound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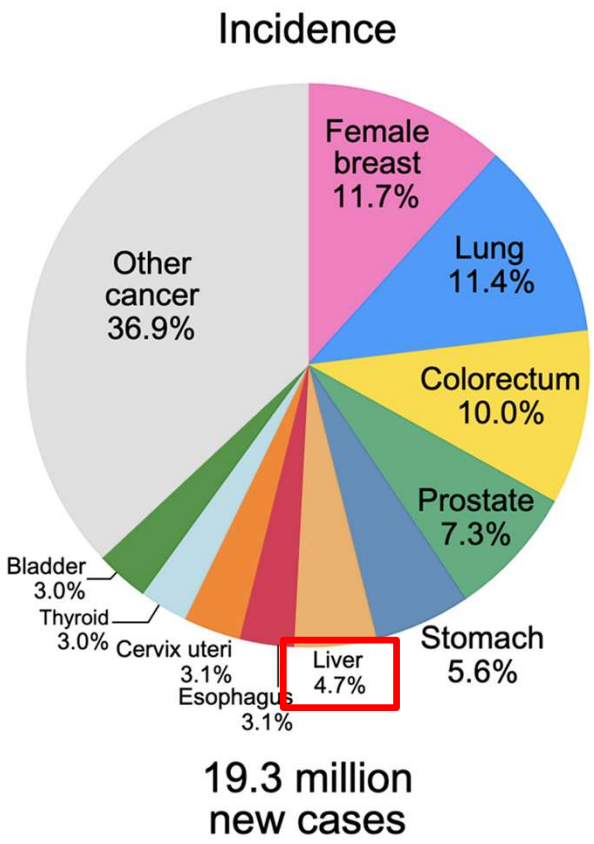
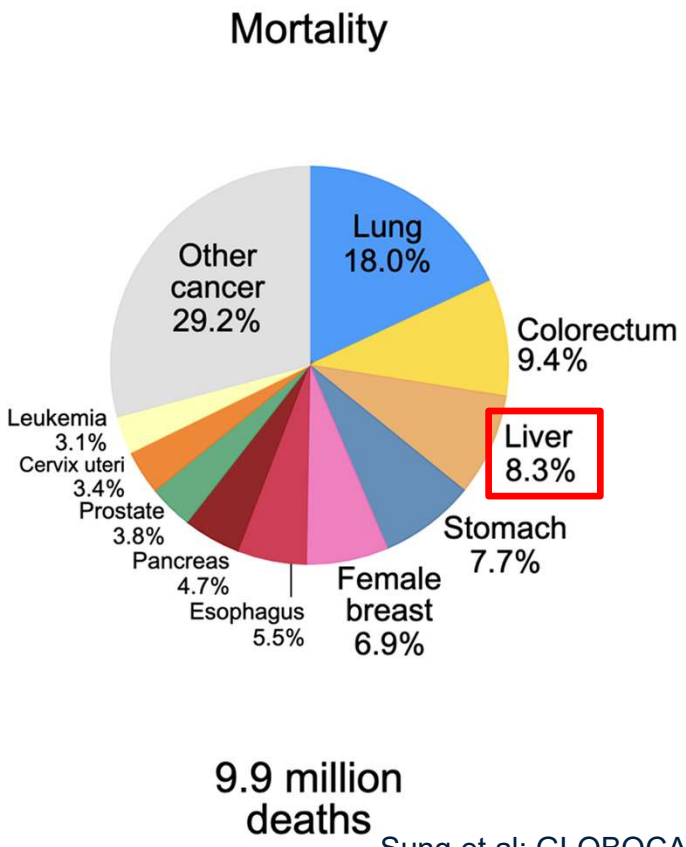
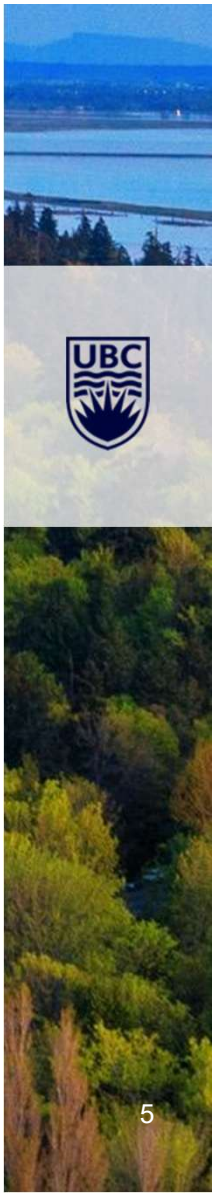
Liver cancer is a leading cause of worldwide cancer death

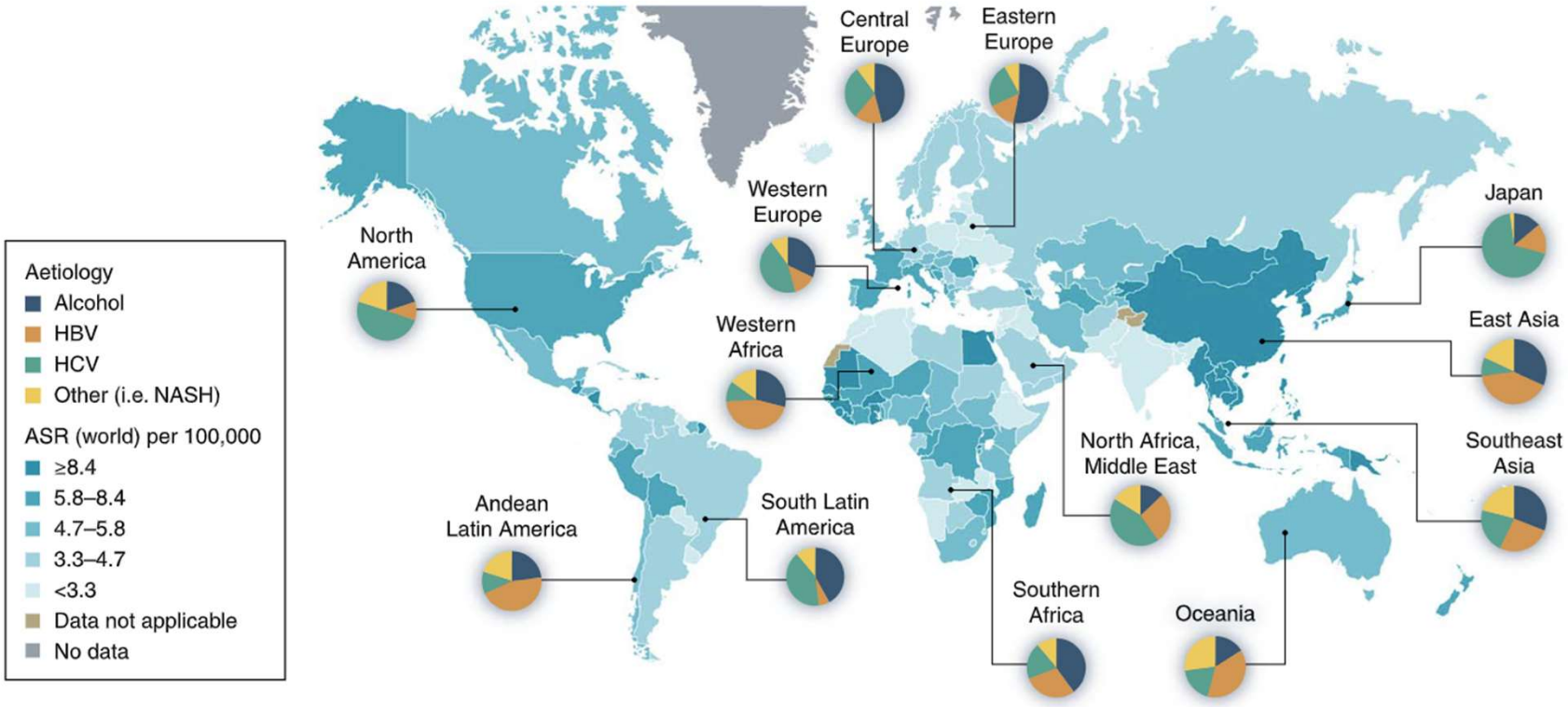




Sung et al; GLOBOCAN 2020 Cancer stats



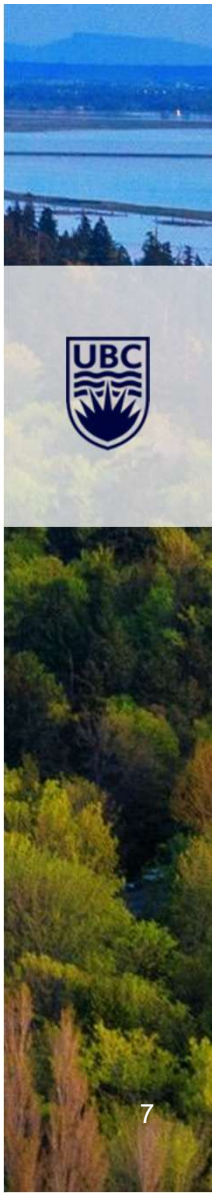
Worldwide distribution of liver cancer varies and is more common in regions with increased Hepatitis B infection



Llovet et al Nat Rev Dis Primers 2019
AASLD 2023 HCC guidelines

Who is at high risk for liver cancer?

- General population risk of liver cancer (without underlying liver disease) is very low
- Increased risk in patients with **advanced fibrosis/cirrhosis** from any cause (alcohol, hepatitis C, etc)
- Increased risk in patients with **chronic hepatitis B (Surface Antigen Positive)** infection, **even without cirrhosis**



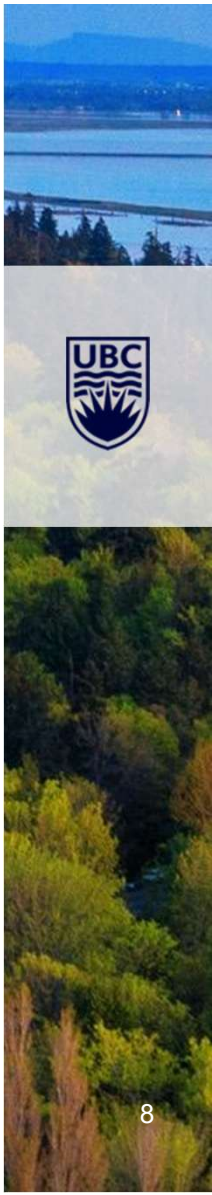
Taking antiviral therapies for hepatitis B reduces the risk of liver cancer

- Taking hepatitis B antiviral therapy has a pooled liver cancer risk reduction of ~30% in non-cirrhotic patients

- Taking hepatitis B antiviral has a pooled liver cancer risk reduction of ~80% in patients with cirrhosis

- **Even if you are taking antiviral, the risk of liver cancer is high enough that screening should be considered in some situations**

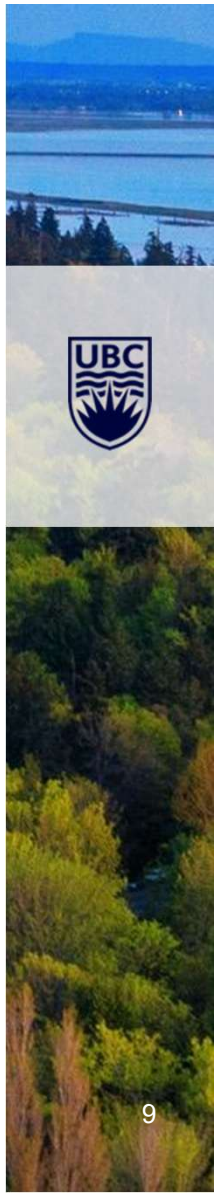
Papatheodoridis et al; J Hepatology 2015



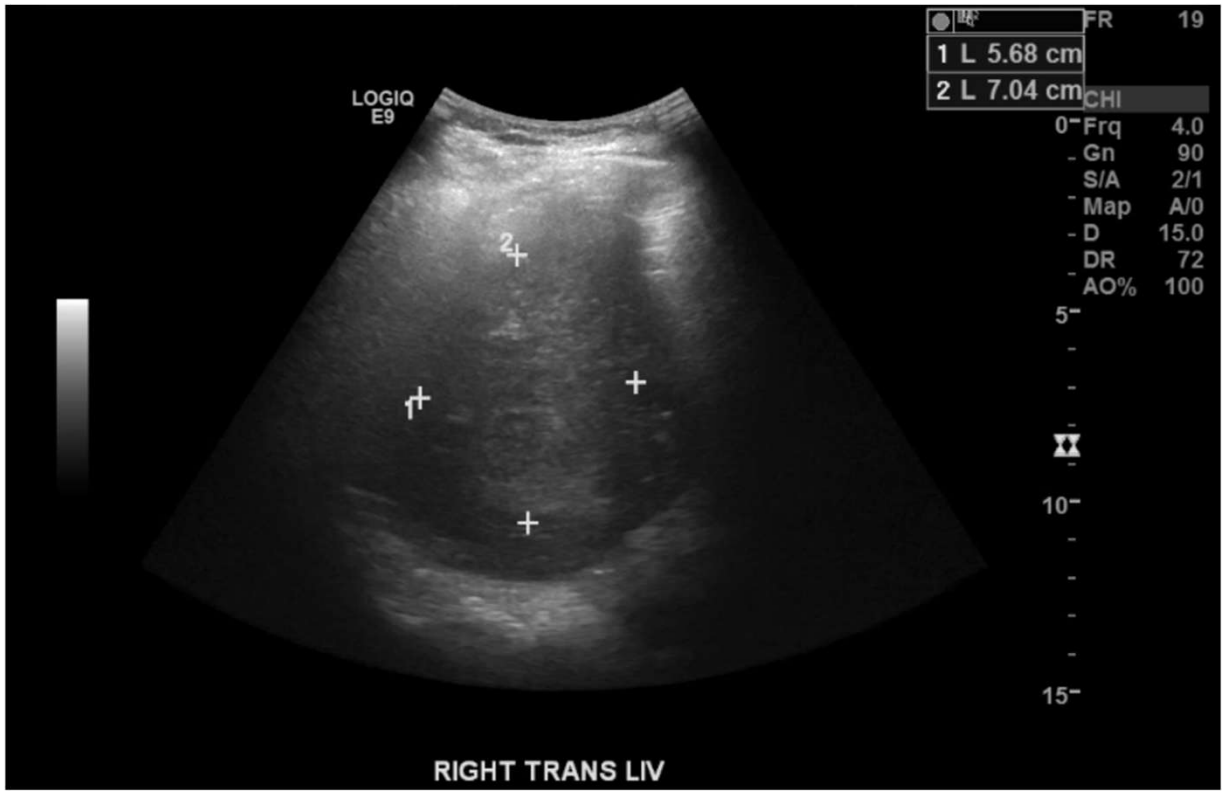
Who is at high risk for liver cancer?

Population group	Incidence of HCC
Sufficient risk to warrant surveillance	
Child-Pugh A–B cirrhosis, any etiology Hepatitis B Hepatitis C (viremic or post-SVR) Alcohol associated cirrhosis Nonalcoholic steatohepatitis Other etiologies	≥ 1.0% per year
Child-Pugh C cirrhosis, transplant candidate	
Non-cirrhotic chronic hepatitis B Man from endemic country age > 40 y Woman from endemic country age > 50 y Person from Africa at earlier age Family history of HCC	≥ 0.2% per year
Insufficient risk and in need of risk stratification models/biomarkers	
Hepatitis C and stage 3 fibrosis	< 0.2% per year
Noncirrhotic NAFLD	

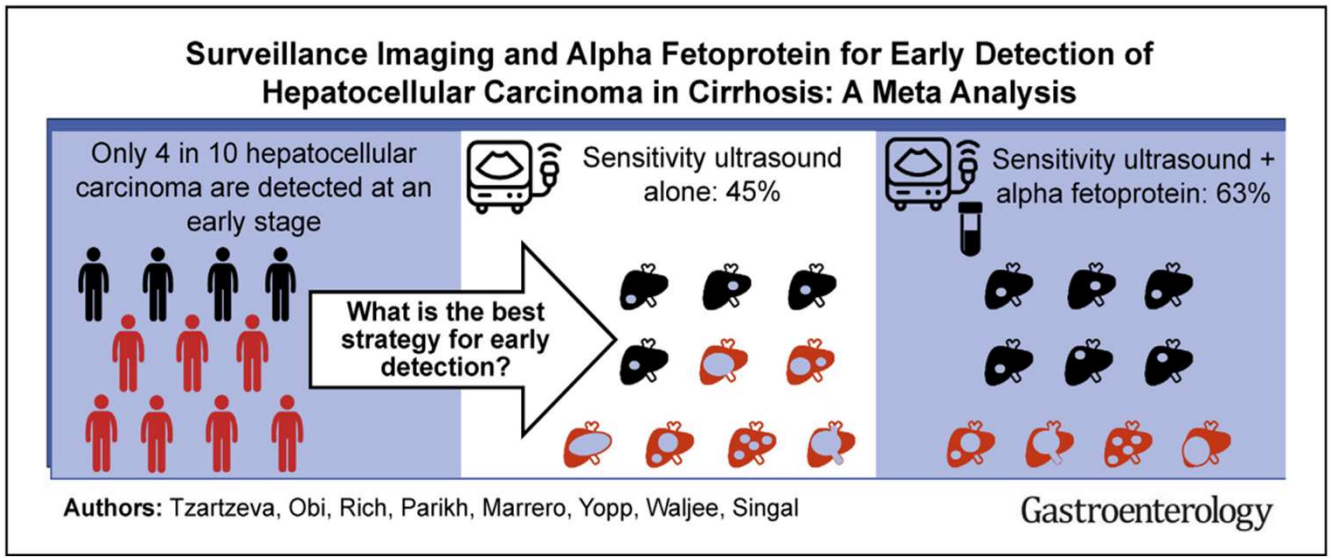
AASLD HCC guidelines; Hepatology 2023



How to screen for liver cancer in at risk patients?
Using an ultrasound and labs every 6 months

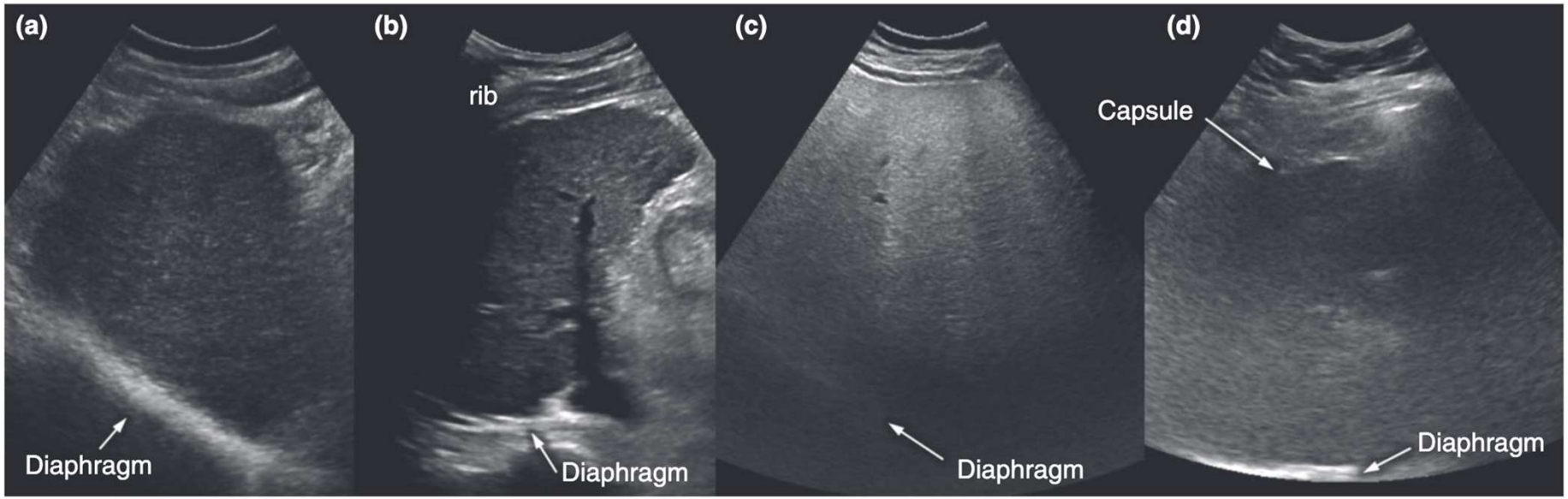


A blood test called Alpha Fetoprotein (AFP) may be added onto ultrasound increase screening sensitivity



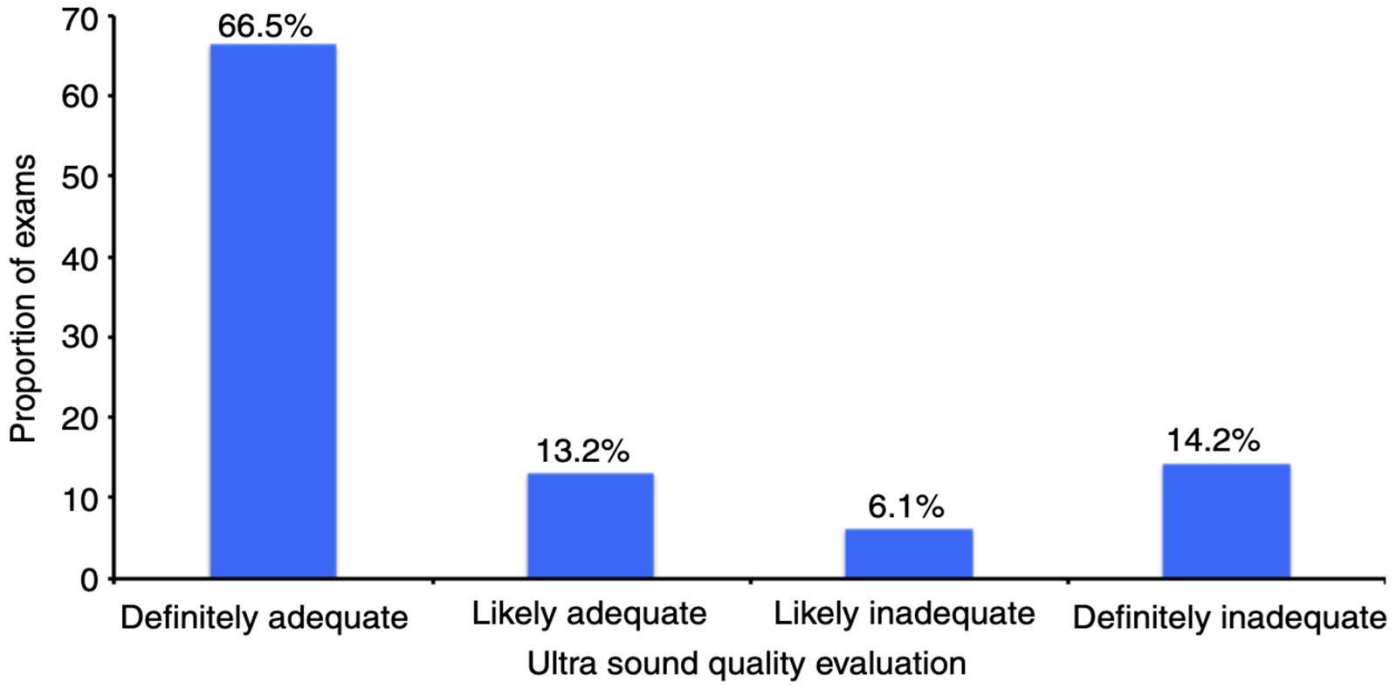
Tzarteva et al.; Gastroenterology 2018
AASLD 2023 HCC Guidelines

There are some limitations with ultrasound as a screening test for liver cancer



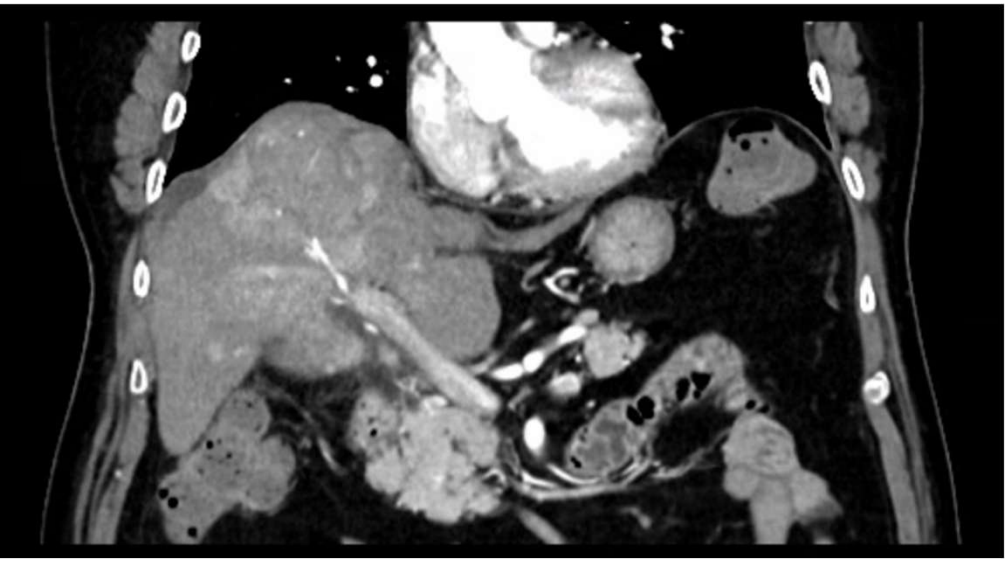
Simmons et al.; Aliment Pharmacol Ther 2017

There are some limitations with ultrasound as a screening test for liver cancer

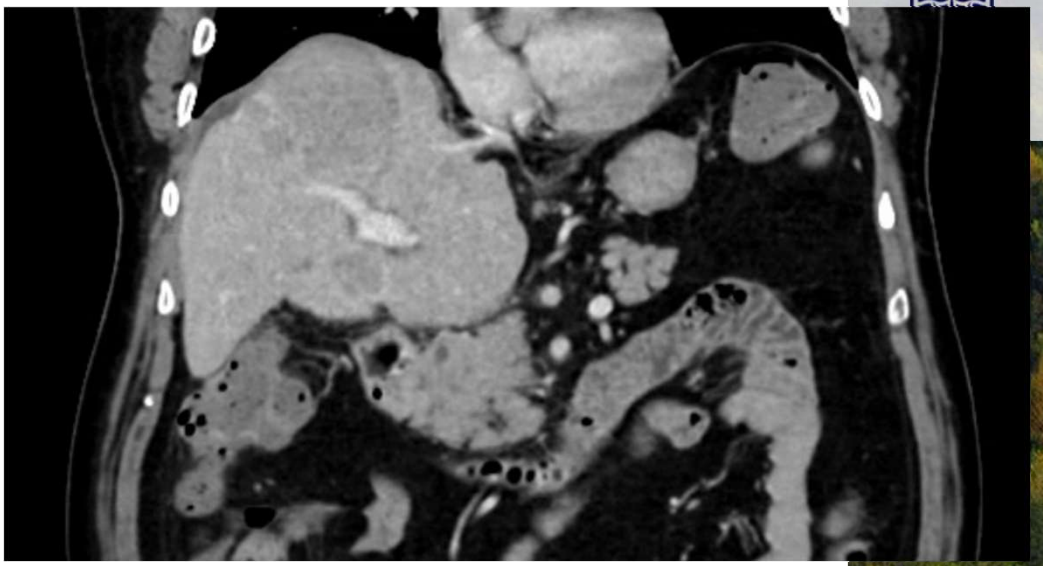


Simmons et al.; Aliment Pharmacol Ther 2017

If ultrasound is of poor quality to see the liver, your doctor will order a CT scan or MRI to better visualize the liver. Sometimes this can detect subtle liver lumps not seen on ultrasound



Arterial Phase



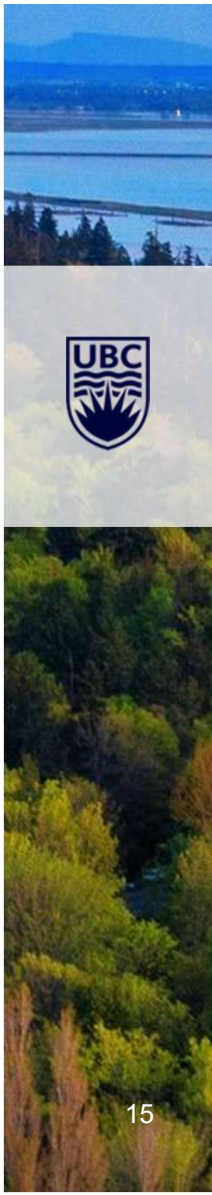
Venous Phase

Not every “liver lump” is liver cancer

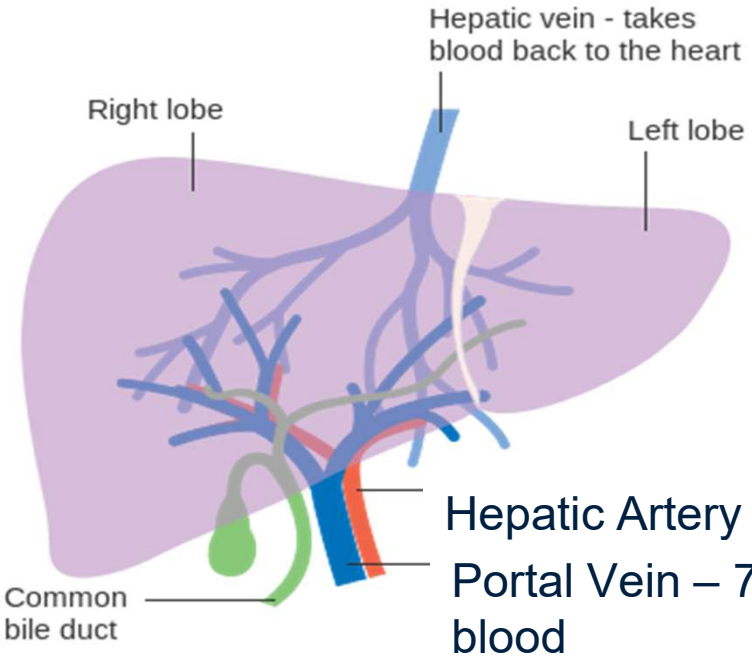
- Common benign (non-cancer) lesions
  - Hepatic hemangioma (5- 20% of general population)
  - Focal nodular hyperplasia (0.4% - 3% of general population)
  - Hepatocellular adenoma (less than 0.004% of general population)
  - Liver cysts
  - “Focal” fat infiltration

- Common malignant (cancerous) lesions
  - Liver cancer
  - Bile duct cancer
  - Cancer from elsewhere spread to the liver

EASL 2016 Benign Liver Lesion Guidelines

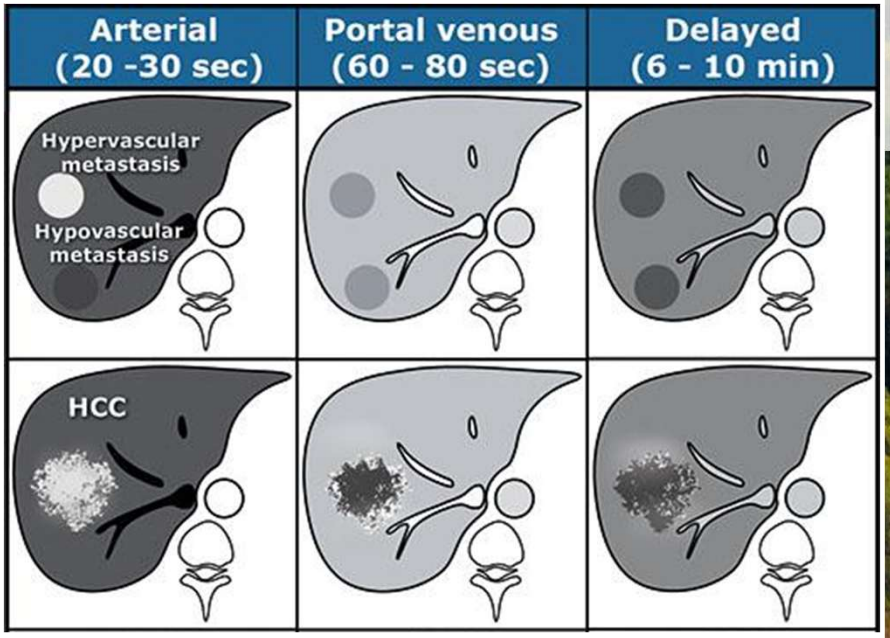


When a “liver lump” is found on ultrasound. Your doctor will order a CT scan or MRI to distinguish between liver cancer and benign liver spots. Usually this will give an answer without needing a biopsy.



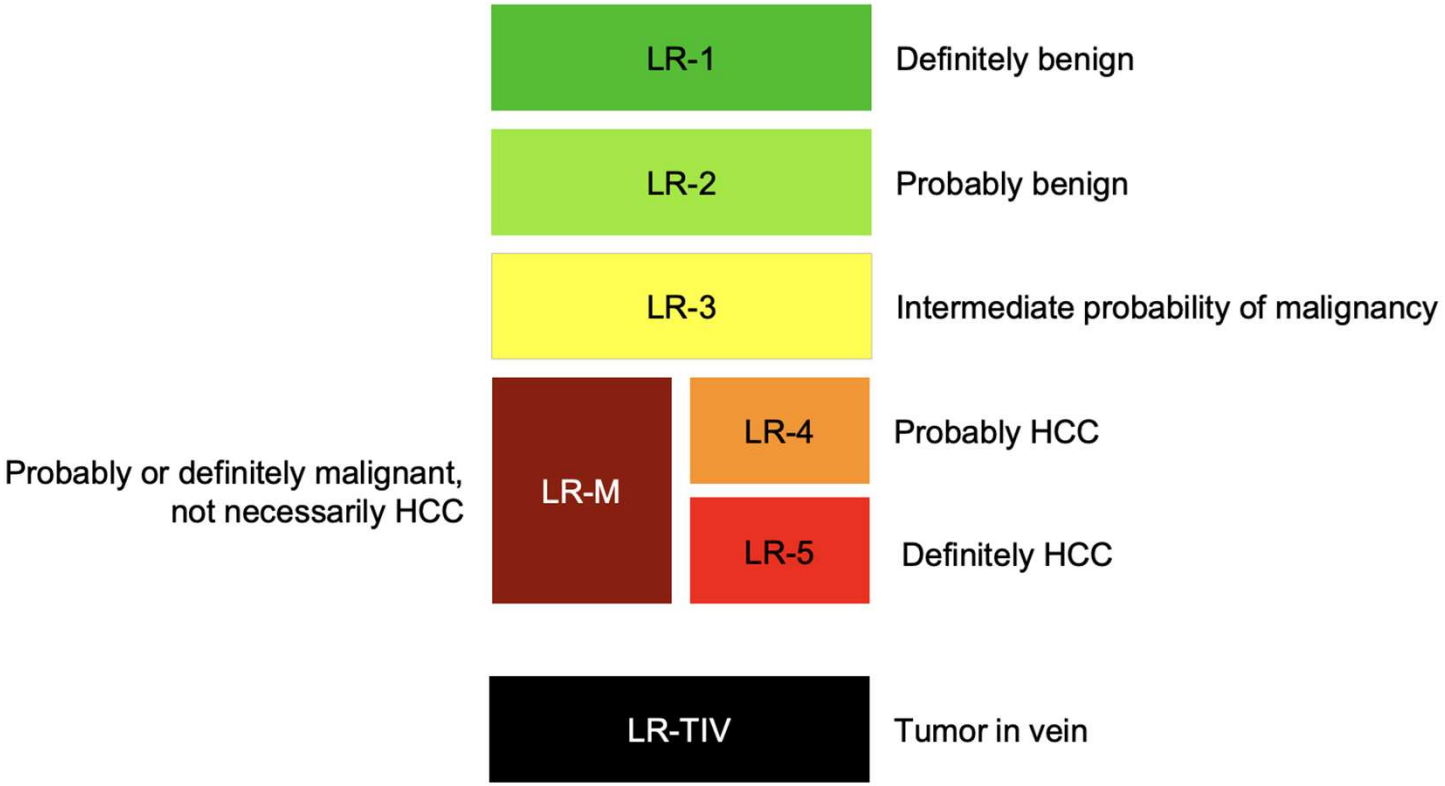
Hepatic Artery 25% of

Portal Vein – 75% of blood

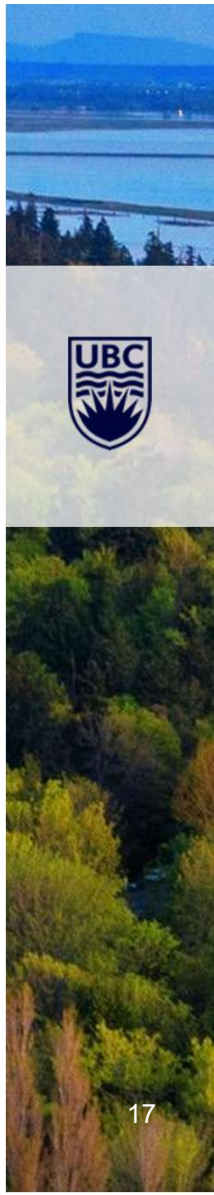


Startradiology.com

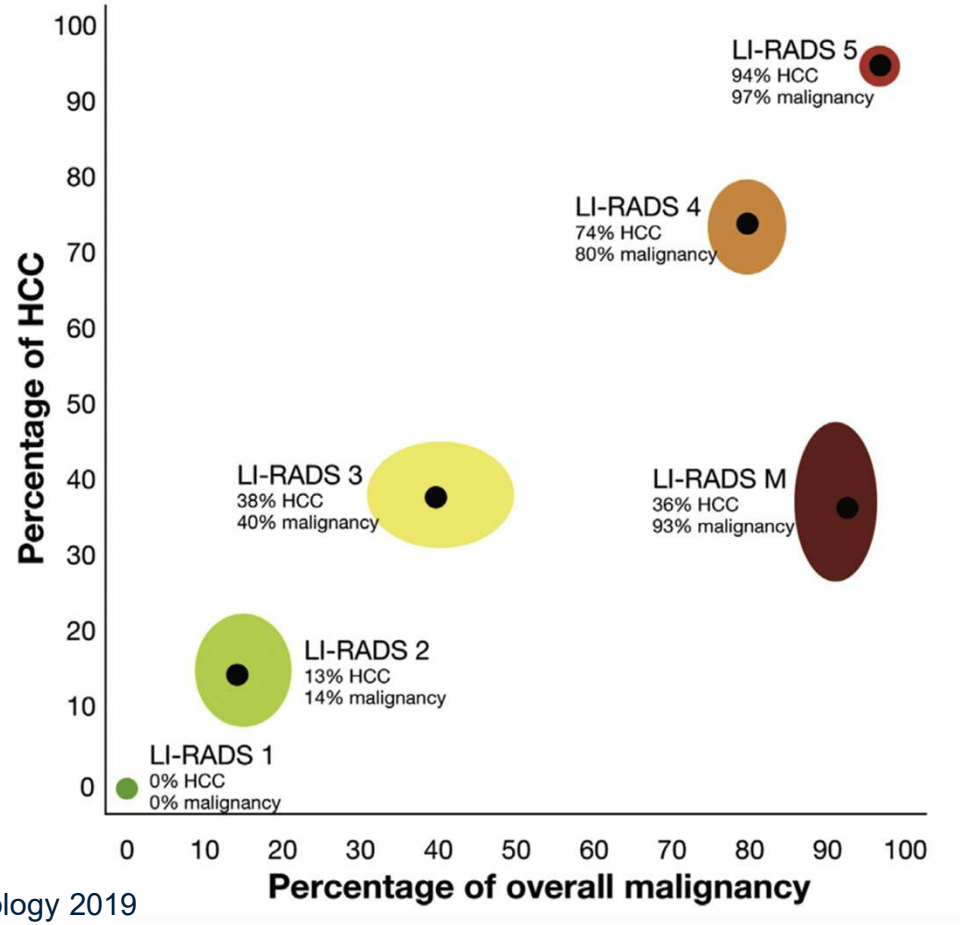
Following the CT scan or MRI, your doctor may present your case at a Multidisciplinary Liver Tumor Board for a detailed review and discussion where a “risk score” will be assigned to the liver lump



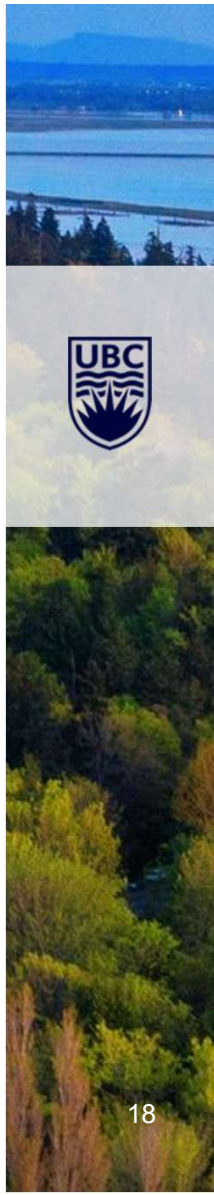
ACR LiRADS v2018 CORE



Li-RADS (risk score) is an effective way for doctors to categorize and communicate the risk of certain liver lumps being cancer



Van der Pol et al, Gastroenterology 2019

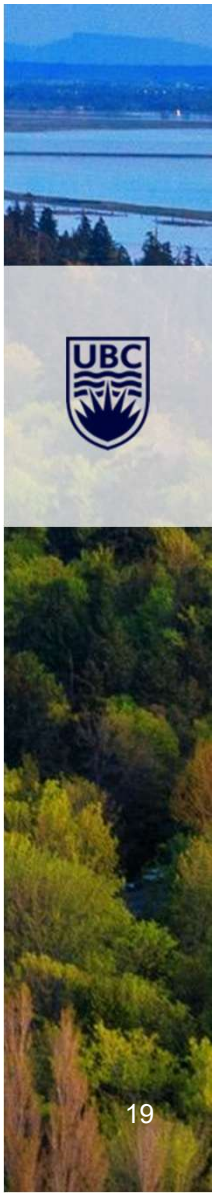


If uncertainty remains about the nature of liver lump after CT or MRI and a discussion at Multidisciplinary Liver Tumor Board, your doctor may order a liver biopsy

- Routine biopsy of suspected liver cancer is usually not done because liver cancer has a very specific and unique appearance on CT or MRI

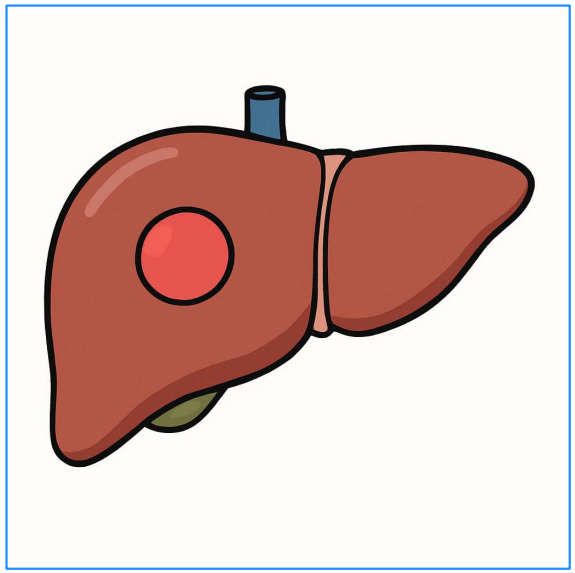
- Biopsy of liver lumps is only done if there is true uncertainty about the nature of the liver lump following appropriate imaging with CT or MRI and a discussion at Liver Tumor Board

- Liver biopsy is generally very safe, but every procedure comes with small risks (bleeding, injury to other organs, spreading tumor cells through the liver)



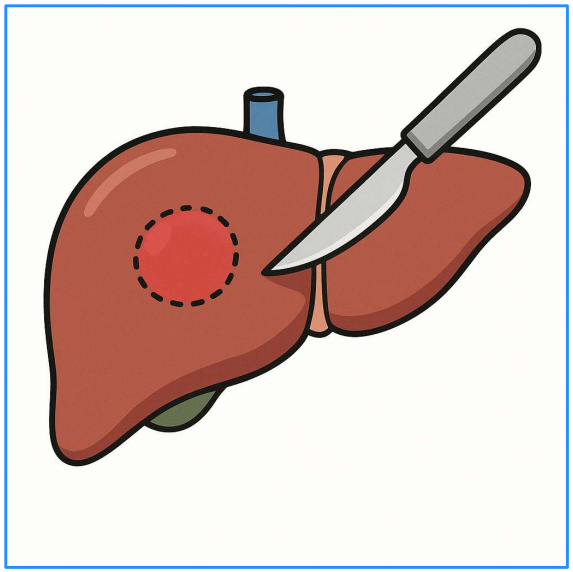
The “staging” of liver cancer considers aspects of the tumor, liver and patient

- Size of the liver tumors
- Number of liver tumors
- Spread of the tumors into blood vessels or outside of the liver (metastasis)
- Liver function
- Overall patient wellness and health



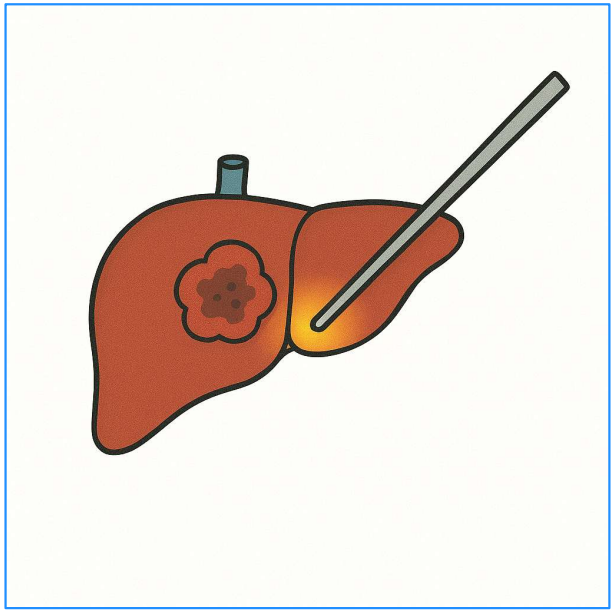
Treatment of liver cancer is complex, and individualized, but might include:

- Surgery -- Cutting out the tumor



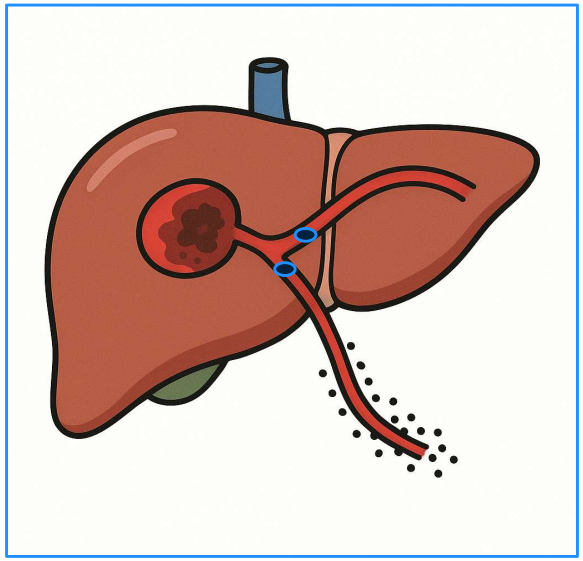
Treatment of liver cancer is complex, and individualized, but might include:

- Surgery
- Ablation -- Treating the tumor with high energy microwave probe or heating probe



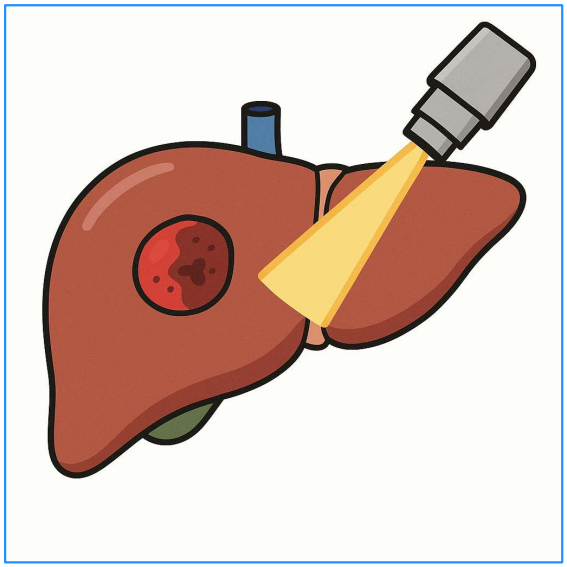
Treatment of liver cancer is complex, and individualized, but might include:

- Surgery
- Ablation
- Embolization -- Starving the blood supply to the liver using chemotherapy or radiation coated synthetic “blood-clots” or beads



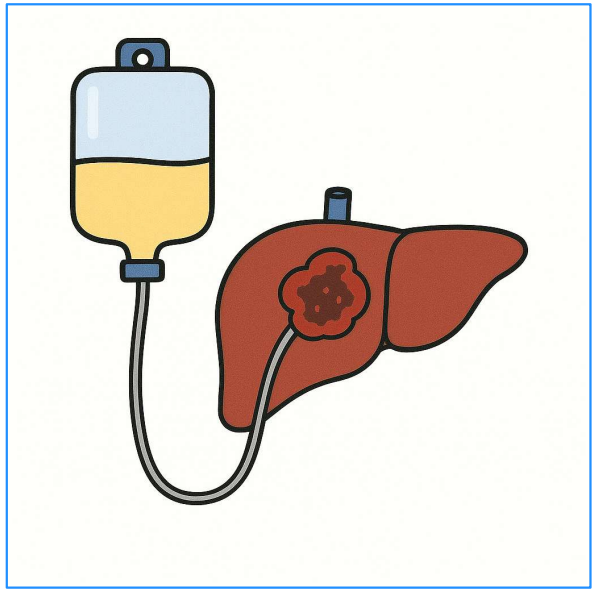
Treatment of liver cancer is complex, and individualized, but might include:

- Surgery
- Ablation
- Embolization
- Radiation -- Targeted radiation applied from the outside of the body directly to the tumor



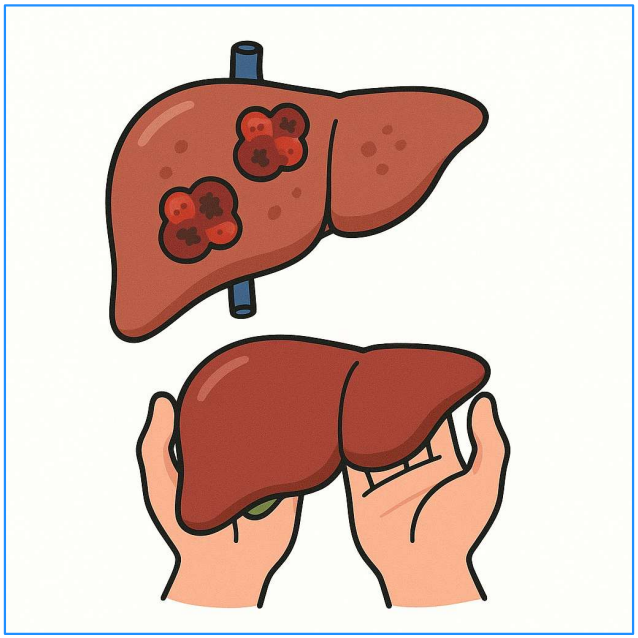
Treatment of liver cancer is complex, and individualized, but might include:

- Surgery
- Ablation
- Embolization
- Radiation
- Chemotherapy/Immunotherapy -- Medicines given by IV that destroy tumor cells inside the liver and elsewhere in the body

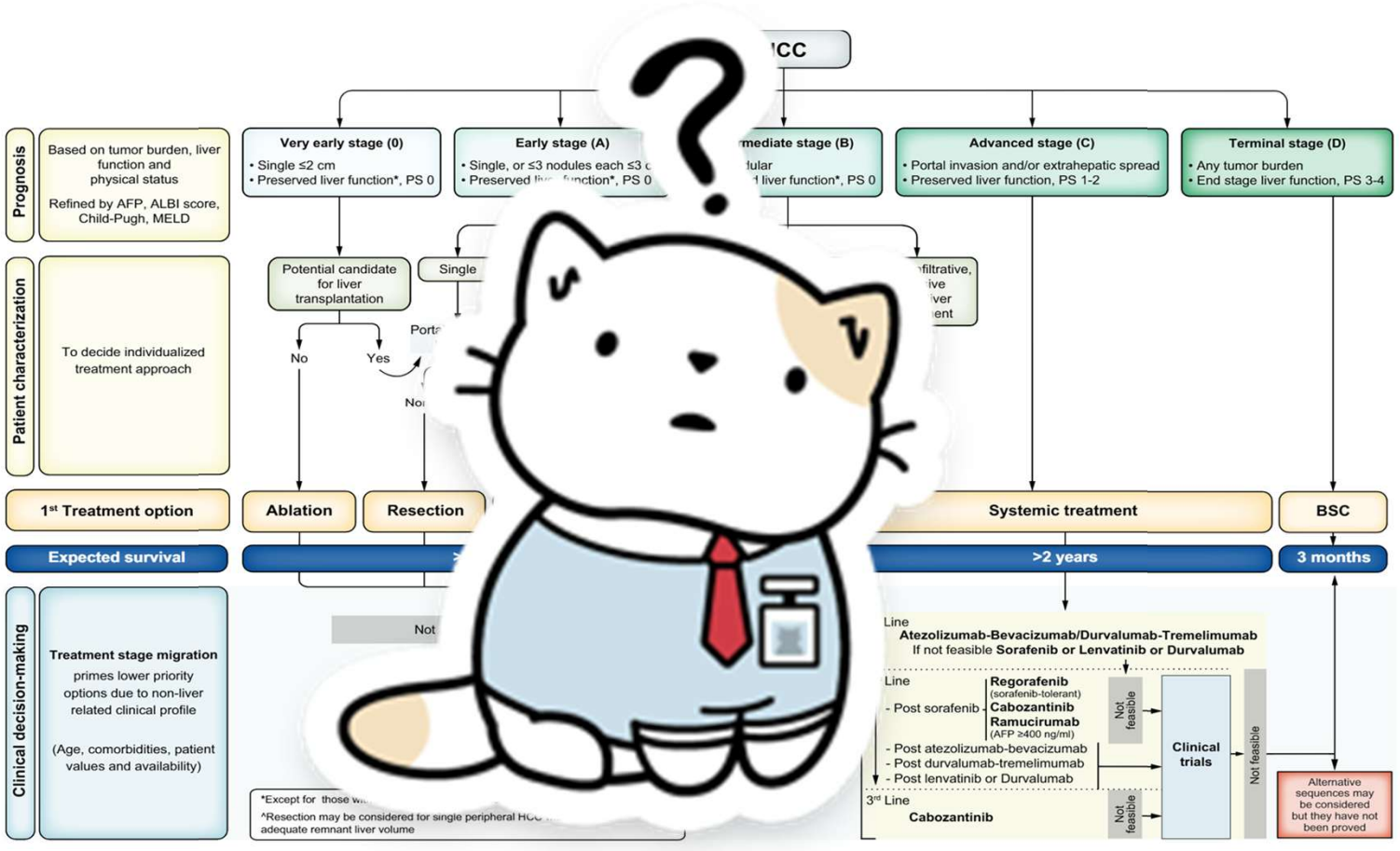


Treatment of liver cancer is complex, and individualized, but might include:

- Surgery
- Ablation
- Embolization
- Radiation
- Chemotherapy/Immunotherapy
- Liver transplant -- Surgically remove unhealthy liver containing tumors, and place new healthy liver from a donor



In practice, many of these therapies occur in sequence over time through complex care pathways and algorithms



Reig et al, J Hep, April 2022

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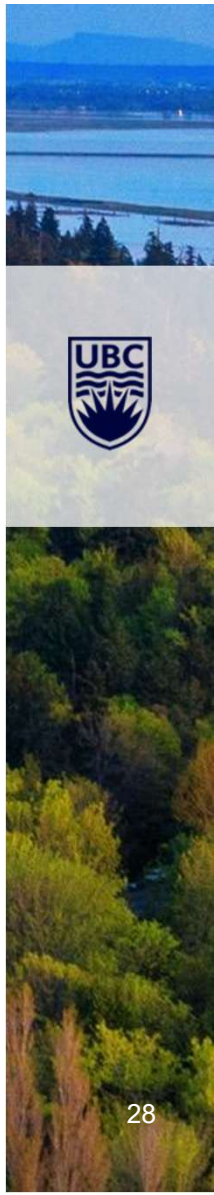
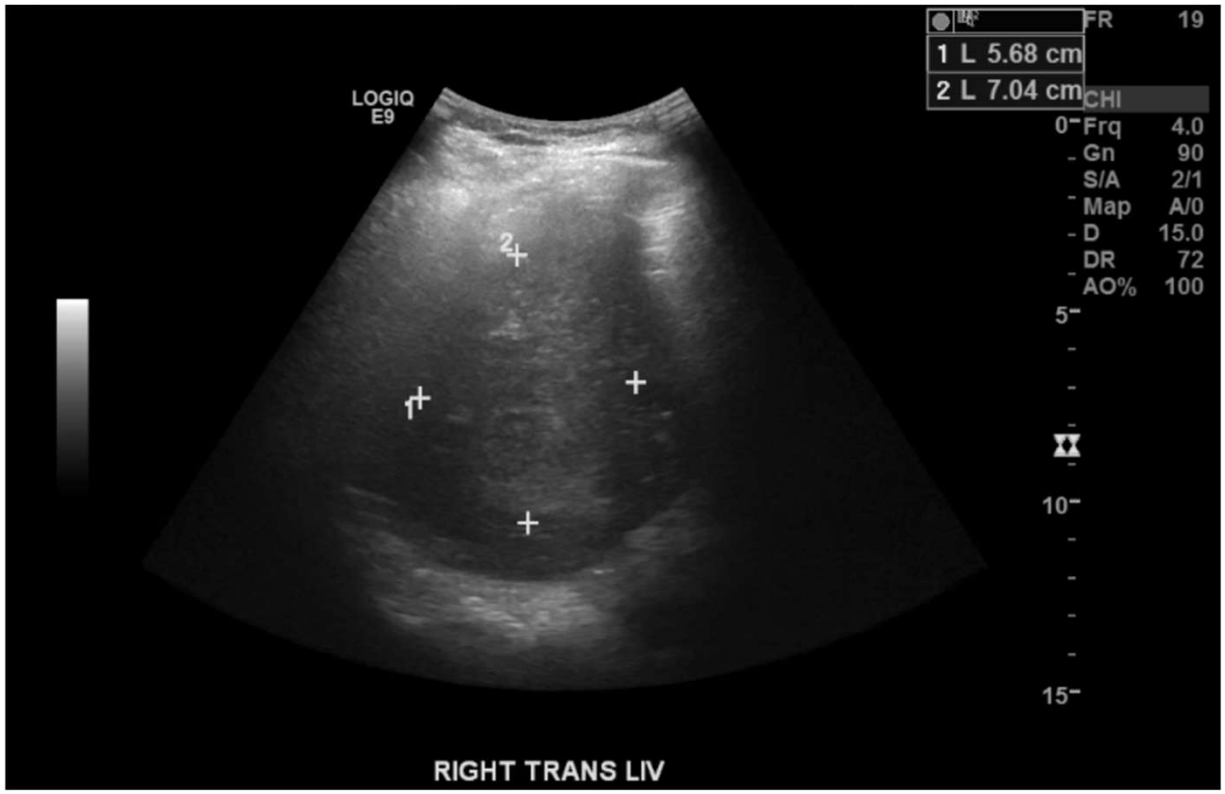


Ultrasound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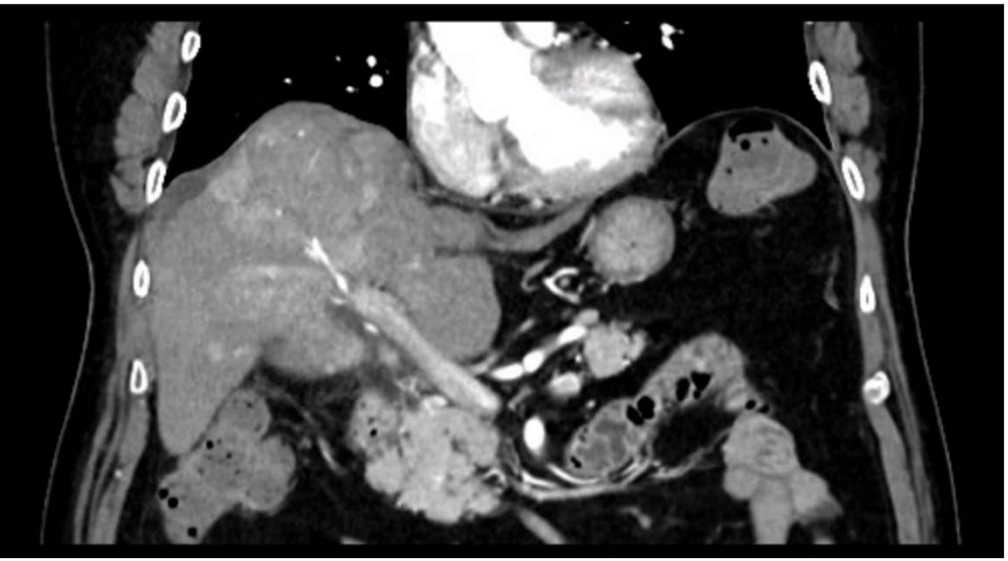
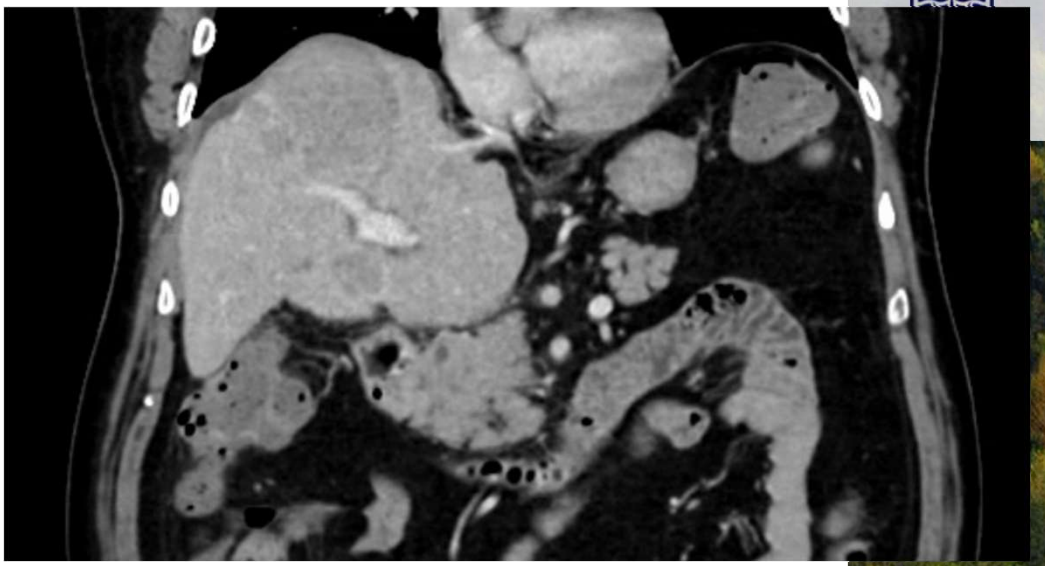
CT Scan



Arterial Phase



Venous Phase

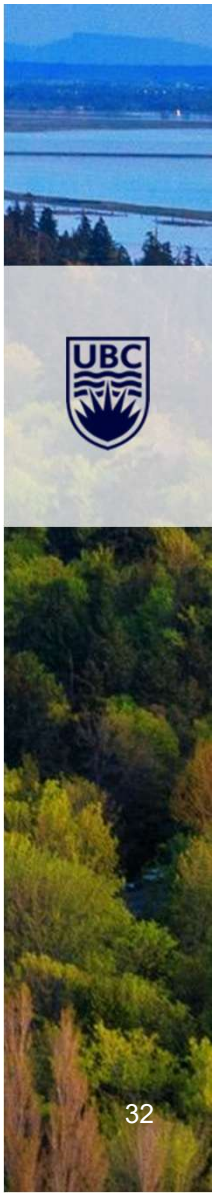
Case Outcome

Case presented at tumor board. Defined goal at tumor rounds to downstage tumor to transplantation

- Started on Lenvatinib (**Medical Oncologist**) and monitored, minimal tumor growth after 6 months.
- Subsequently treated with a local radiation to tumor (Y-90) (**Interventional Radiologist**) with intent to downstage tumor
- Concurrent transplant work-up in background with hepatitis B treatment (**Hepatologist**)
- Short admission to hospital for dehydration and hyponatremia after Y-90 (**Internal Medicine Doctor**)
- Determined to be within transplant criteria following Y-90, and underwent liver transplant (**Hepatobiliary Surgeon, Transplant Doctor**)

In Conclusion

- Liver cancer is deadly, and is often diagnosed too late, leading to a high rate of mortality in comparison with other cancers
- Chronic Hepatitis B infection (surface antigen positive) is a major risk factor for liver cancer, even if you do not have scarring/cirrhosis. Taking antiviral therapy significantly reduces this risk
- Persons with Hepatitis B infection should be screened with ultrasound and bloodtest (alpha fetoprotein) every 6 months
- If liver cancer is diagnosed, your doctor will review your case at a multidisciplinary tumor board with other doctors to decide on the best individualized treatment plan




Thank you for your attention!