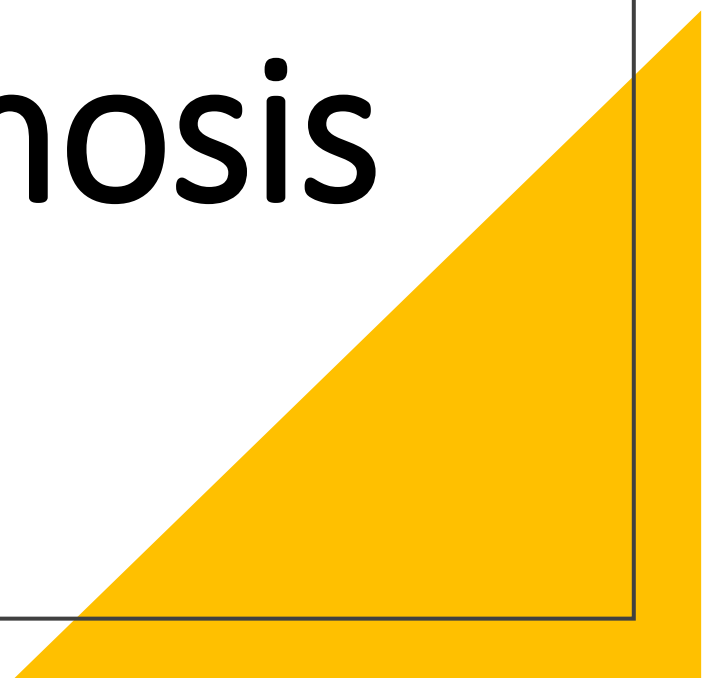


Predictive models of liver disease prognosis

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Compensated cirrhosis

- Median survival without non-bleeding esophageal varices >12 years
- Those with non-bleeding esophageal varices
 - 3.4% vs 1% one mortality rate

Decompensated cirrhosis

- Development of ascites, hepatic encephalopathy, esophageal variceal bleeding, hepatopulmonary syndrome or hepatorenal syndrome.
- Worse outcomes than compensated patients
- **Two most used predictive models**
 - Child-Pugh classification (CP score)
 - MELD score

Predictors of mortality

Decompensated patients

- Median survival \leq 6 months
 - CP score – 12 or more
 - MELD score - 21 or more

After hospitalization for illness related to decompensated cirrhosis

- Median survival \leq 6 months
 - CP score - 10 or more
 - MELD score – 18 or more



Child-Pugh Score for Cirrhosis Mortality



Total Bilirubin: mg/dL

Albumin: g/dL

INR:

Ascites:

Encephalopathy:

Score: 8

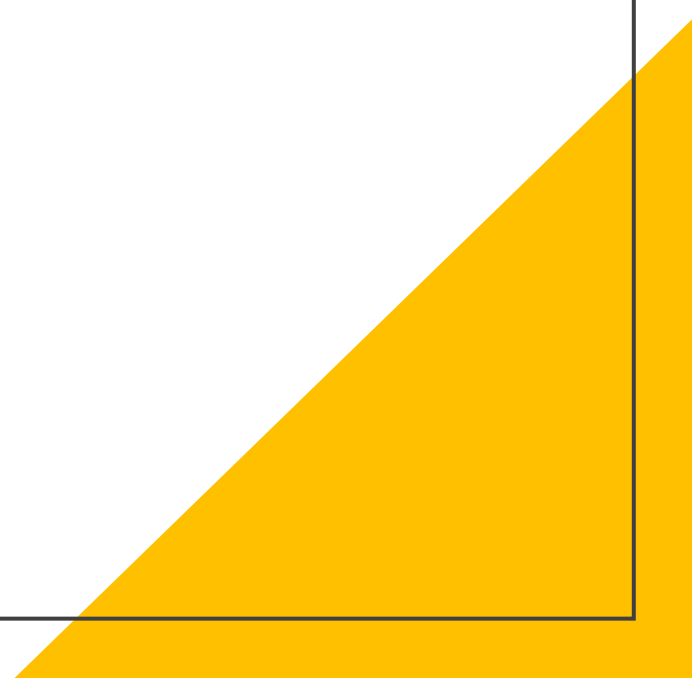
Classification: B

Survival: One Year: 81.00% / Two Year: 57.00%

[Add to Chart](#)

[Calculate](#)

Child-Pugh classification

- **Variables used** – serum albumin, bilirubin, PT, ascites and hepatic encephalopathy
 - **Score ranges from 5-15**
 - 5 or 6 = class A
 - 7 to 9 = class B
 - 10 to 15 = class C
 - **One year survival rates**
 - Class A – 100%
 - Class B – 80%
 - Class C – 45%
 - **Two-year survival rate**
 - Class A - 85%
 - Class B – 60%
 - Class C – 35%
- 
- A large yellow right-angled triangle is positioned in the bottom right corner of the slide, pointing towards the top-left.

CP calculator

- **Bilirubin**

- <2 mg/dL (1 point)
- 2-3 mg/dL (2 points)
- >3 mg/dL (3 points)

- **Albumin**

- >3.5 g/dL (1 point)
- 2-3 g/dL (2 points)
- <2.8 g/dL (3 points)

- **Prothrombin time**

- INR <1.7 (1 point)
- INR 1.7-2.3 (2 points)
- INR >2.3 (3 points)

- **Encephalopathy**

- None (1 point)
- Grade 1: altered mood/confusion (2 points)
- Grade 2: inappropriate behavior, impending stupor, somnolence (2 points)
- Grade 3: markedly confused, stupor but arousable (3 points)
- Grade 4: comatose/unresponsive (3 points)

- **Ascites**

- Absent (1 point)
- Slight (2 points)
- Moderate (3 points)

CP score and surgery risk

- **Mortality rates in patients undergoing abdominal surgery**
- 1984 study – Class A – 10%, Class B – 31% and Class C – 82%
- 2010 study - Class A – 2%, Class B – 12% and Class C – 12%
 - Mostly laparoscopic surgeries
- 2011 study - Class A – 10%, Class B – 17% and Class C – 63%
 - Intra abdominal or abdominal wall surgery

MELD and MELD Na

- Variables – creatinine, bilirubin, PT/INR, Na
- Score range: 6-40
- Uses:
 - Initially used to predict 3-month survival following TIPS
 - Best outcomes for those 14 or less and should Avoid in pts with MELD 24 or higher
 - **Primary use today**
 - **listing ranking for transplant**



MELD Score for Liver Disease (With Sodium)



Serum Bilirubin: mg/dL

INR:

Serum Creatinine: mg/dL

Patient has had dialysis at least twice in
the past week:

Sodium: mmol/L

MELD Score: 40

3 Month Mortality: 71.3 %

Add to Chart

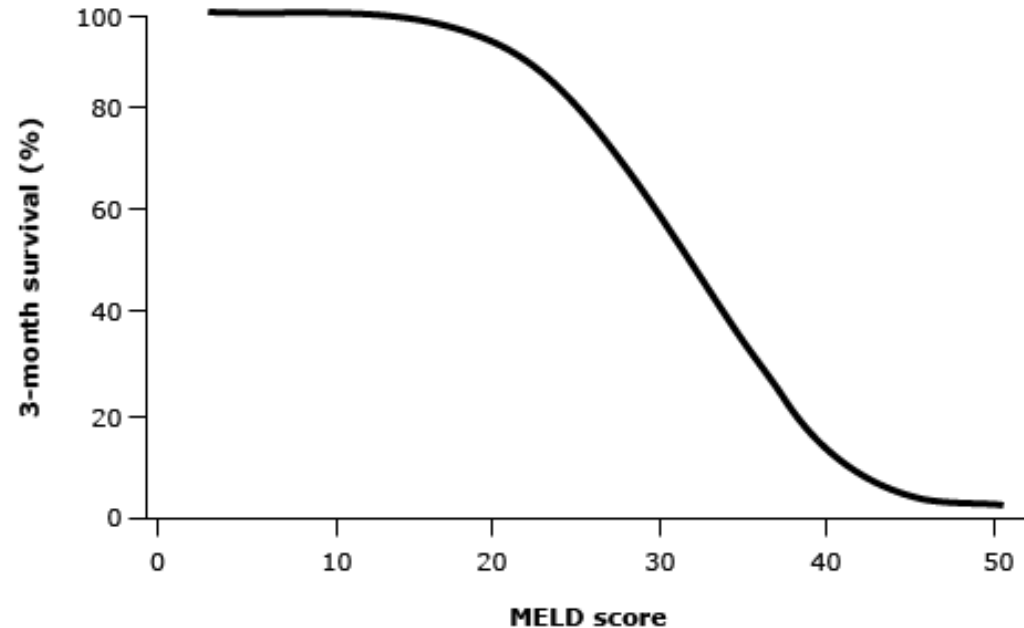
Calculate

Ordering Provider:

When to refer for transplant

- MELD reaches 15
- After first decompensation
- After first episode of SBP
- Development of HCC

Estimated 3-month survival as a function of the MELD score in patients with cirrhosis



MELD: Model for End-Stage Liver Disease.

Adapted from: Wiesner, R, Edwards, E, Freeman, R, et al. Model for end-stage liver disease (MELD) and allocation of donor livers. Gastroenterology 2003; 124:91.