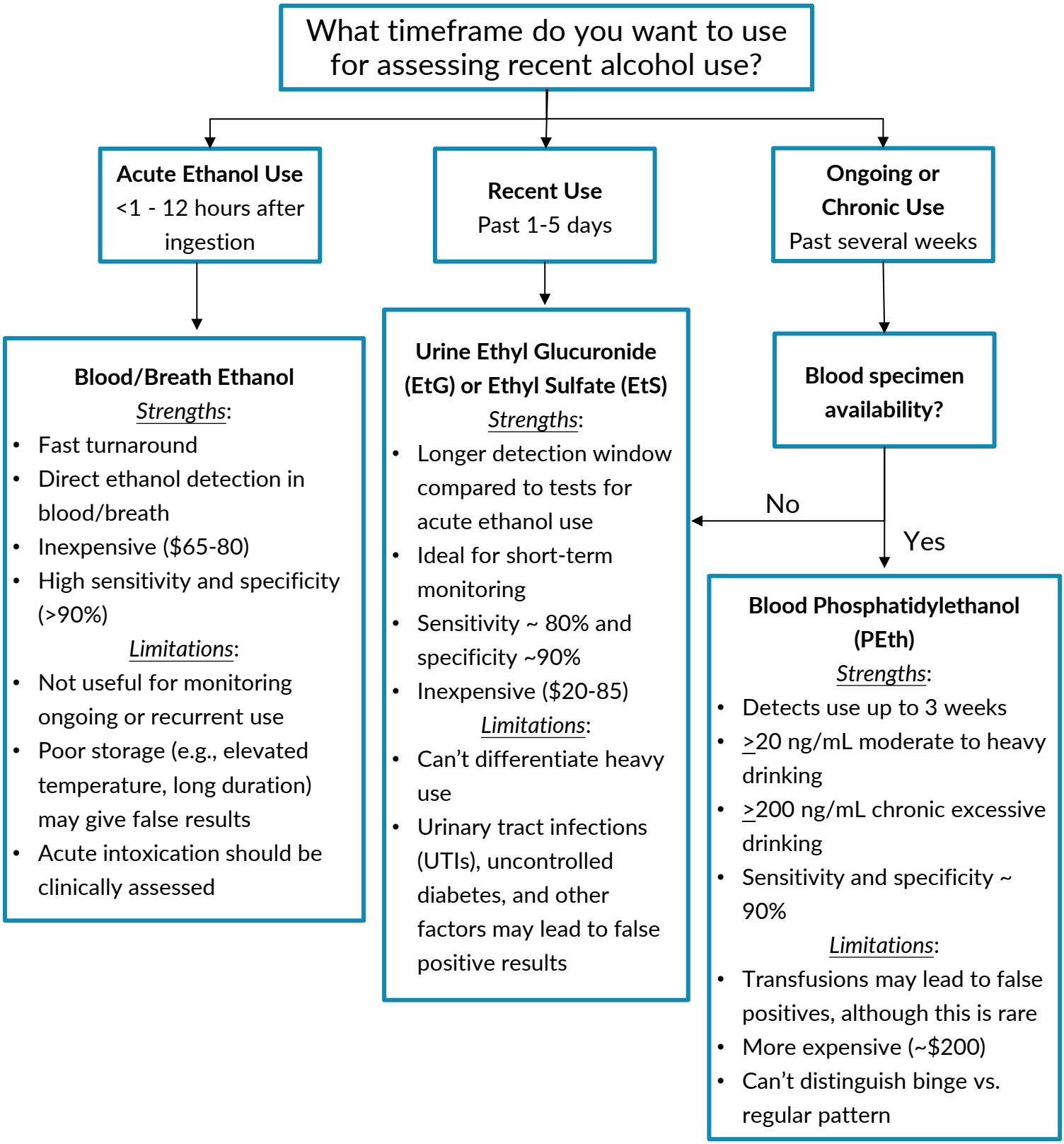
PCSS Providers Clinical Support System
Medications for Alcohol Use Disorder

Biomarker Testing for Alcohol

Biomarker Testing for Alcohol – Specific

Deciding which biomarker to use to assess recent alcohol use is based on laboratory capabilities and access, patterns of recent use, and cost.



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Biomarker Testing for Alcohol – Non-Specific

Several biomarkers can be used to test for liver injury related to recent or chronic alcohol use. However, these biomarkers are non-specific to alcohol use and may be elevated for other reasons (e.g., liver disease even after alcohol cessation) not related to drinking.

Carbohydrate-Deficient Transferrin (CDT)	Aspartate Aminotransferase (AST)	Alanine Aminotransferase (ALT)	Gamma - Glutamyl Transferase (GGT)
• Measures chronic alcohol-related changes in transferrin glycosylation • Highly specific for chronic heavy use • Not useful for occasional/recent use • ~ 1-3-week detection window	• Elevated in liver disease, muscle injury, and hemolysis. • AST:ALT ratio >2:1 suggests alcohol-related liver injury. • Short detection window (days-weeks)	• Less specific for alcohol use • Normal or mildly elevated in alcohol-related liver disease • Commonly used with AST to obtain ratios for liver injury • Short detection window (days-weeks)	• Elevated in liver disease • More sensitive than AST/ALT but not specific to alcohol • Also elevated in obesity, smoking, and certain medications • Detection window ~ 2-6 weeks
• Cost: Moderate	• Cost: Low	• Cost: Low	• Cost: Low to moderate
• Sensitivity: 60-70% • Specificity: 85-95%	• Sensitivity: 30-50% • Specificity: ~80%	• Sensitivity: 20-40% • Specificity: ~70%	• Sensitivity: 50-75% • Specificity: 50-80%

More Specific → Less Specific

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