

## Transient elastography for screening of liver fibrosis: Cost-effectiveness analysis from six prospective cohorts in Europe and Asia

Serra-Burriel M, et al., Journal of Hepatology 2019;71(6):1141-1151

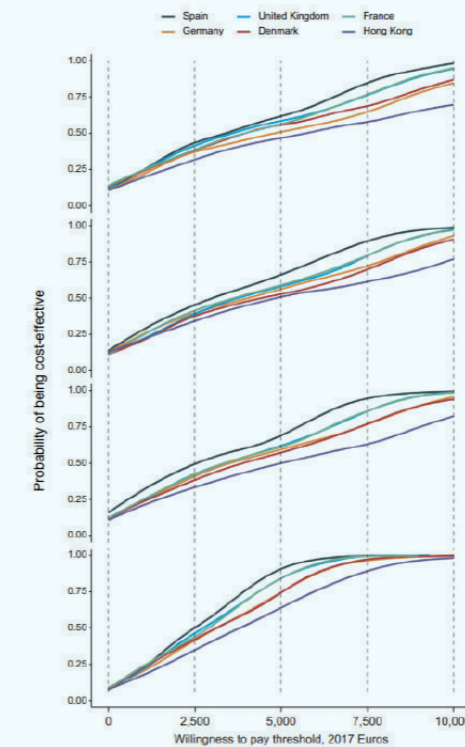
Objectives	<ul style="list-style-type: none"> <li>To explore the cost-effectiveness of liver stiffness measurement (LSM by VCTE™) as a screening method to detect liver fibrosis in a primary care pathway</li> </ul>
Method	<ul style="list-style-type: none"> <li><b>Cost-effectiveness analysis was performed using real-life individual patient data from independent prospective cohorts</b> <ul style="list-style-type: none"> <li>- 5 from Europe (Spain, Germany, United Kingdom, Denmark, France)</li> <li>- 1 from Asia (Hong Kong)</li> </ul> </li> <li><b>Comparison of the incremental cost-effectiveness of a screening strategy against standard of care alongside the numbers needed to screen to diagnose a patient with fibrosis stage F<math>\geq</math>2</b></li> </ul>
Patients analyzed	<ul style="list-style-type: none"> <li>6295 asymptomatic patients</li> </ul>
Results	<p><b>Screening with LSM by VCTE™ was cost-effective</b></p> <ul style="list-style-type: none"> <li>Mean incremental cost-effectiveness ratios ranged from 2,570 €/QALY in Spain for a population at-risk of alcohol-related liver disease (age<math>\geq</math>45 years) to 6,217 €/QALY in Hong Kong for the general population</li> <li>Overall, there was a 12% chance of LSM by VCTE™ screening being cost saving across countries and populations (cf. Fig. 1)</li> </ul> <p><b>Optimal LSM by VCTE™ cut-off for diagnosis of significant fibrosis (F<math>\geq</math>2) (cf. Fig. 2)</b></p> <ul style="list-style-type: none"> <li>9.1 kPa in general population</li> <li>9.5 kPa in at-risk population</li> </ul>

VCTE™: Vibration Controlled Transient Elastography • LSM: Liver Stiffness Measurement • QALY: Quality-Adjusted Life Years

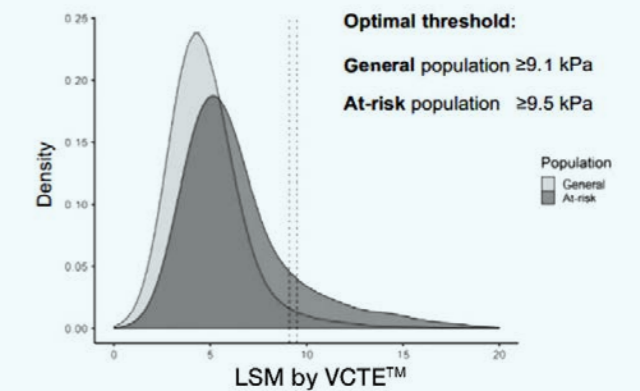
### Key points

- Screening for liver fibrosis with LSM by VCTE™ in primary care is a cost-effective intervention for European and Asian populations and may even be cost-saving

**FIGURE 1 Cost-effectiveness acceptability curves by country and targeted population, n = 1,000**



**FIGURE 2 LSM by VCTE™ screening algorithm**



## High Prevalence of Liver Fibrosis Among European Adults with Unknown Liver Disease. A Population-Based Study

Caballeria L, et al., Clinical Gastroenterology and Hepatology 2018;16(7):1138-1145

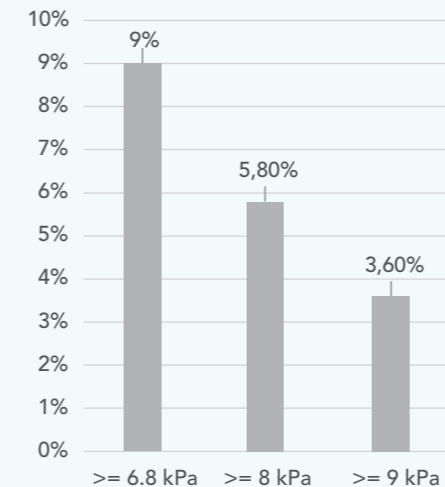
Objectives	<ul style="list-style-type: none"> <li>To investigate the prevalence of liver fibrosis in general adult population with unknown liver disease using LSM by VCTE™</li> </ul>
Method	<ul style="list-style-type: none"> <li><b>Patient Management Flowchart</b></li> </ul>
Patients analyzed	<ul style="list-style-type: none"> <li>3014 patients (including 92 patients with liver biopsy)</li> </ul>
Results	<p><b>Prevalence of increased liver fibrosis (F<sub>&gt;=2</sub>) assessed by three cut-off levels</b></p> <ul style="list-style-type: none"> <li>&gt;=6.8 kPa was 9%</li> <li>&gt;=8 kPa was 5.8%</li> <li>&gt;=9 kPa was 3.6%</li> </ul> <p>(cf. Fig. 1)</p> <p><b>Referral cases</b></p> <ul style="list-style-type: none"> <li>179 subjects accepted Hepatology consultation</li> <li>92 patients accepted liver biopsy → 81 NAFLD &amp; 7 alcoholic liver disease, best cut-off of LSM by VCTE™ for significant liver fibrosis (F<sub>2</sub>-F<sub>4</sub>) was 9.2 kPa with high sensitivity (93%), specificity (78%) &amp; diagnostic accuracy (83%)</li> <li>Predictive accuracy of LSM in the detection of significant liver fibrosis was significantly better than that of ALT levels, NFS &amp; FIB-4</li> </ul> <p><b>Development of an algorithm for screening for liver fibrosis in the community setting (cf. Fig. 2)</b></p>

VCTE™: Vibration Controlled Transient Elastography • LSM: Liver Stiffness Measurement • ALT: Alanine Aminotransferase  
 • ULN: Upper Limit of Normal • NAFLD: Non-alcoholic Fatty Liver Disease • FIB-4: Fibrosis-4 Index • NFS: NAFLD Fibrosis Score

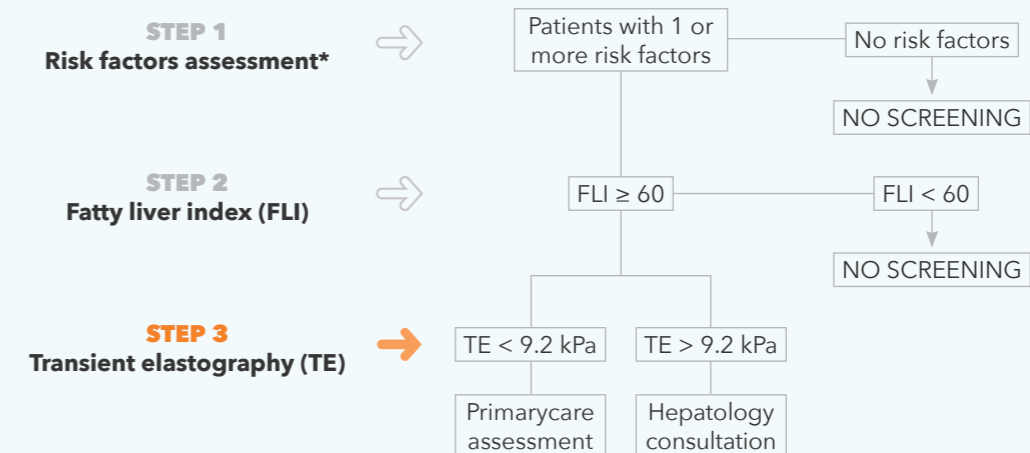
### Key points

- LSM by VCTE™ < 9.2 kPa predicts absence of significant liver fibrosis with high accuracy and should be used for screening purpose
- High prevalence of silent liver disease with advanced fibrosis mainly related to NAFLD in adult subjects without known liver disease

**FIGURE 1** Prevalence of increased liver fibrosis (F<sub>>=2</sub>) assessed by three cut-off levels



**FIGURE 2** Algorithm for screening for liver fibrosis



\*risk factors for liver fibrosis are: obesity, type 2 diabetes, hyperlipidemia, arterial hypertension, metabolic syndrome or alcohol risk consumption