



## Reproducibility of Liver Stiffness Measurement by Ultrasonographic Elastometry

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Auteur	Boursier, Jérôme [1], Konate, Anselme [2], Gorea, Gabriella [3], Reaud, Stéphane [4], Quemener, Emmanuel [5], Oberti, Frédéric [6], Fouchard-Hubert, Isabelle [7], Dib, Nina [8], Calès, Paul [9]
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Résumé en anglais	<p>Background &amp; Aims Fibroscan is a noninvasive device that assesses liver fibrosis by liver stiffness evaluation (LSE) with ultrasonographic elastometry. We evaluated LSE reproducibility and its influencing factors. Methods LSE was performed by 4 experienced physicians (&gt;100 LSEs) in 46 patients with chronic liver disease at 4 different anatomic sites. Additional LSEs were performed for ancillary aims, so that 534 LSEs were available. Results Overall interobserver agreement for LSE results was considered as excellent, with intraclass coefficient correlation (Ric) of 0.93. Low LSE level, nonrecommended sites, LSE interquartile range &gt; 25%, and body mass index <math>\geq 25</math> independently decreased agreement. Thus, agreement was fair (Ric = 0.53) for LSE &lt; 9 kilopascals and excellent (Ric = 0.90) beyond. The best measurement site for LSE reproducibility was the median axillary line on the first intercostal space under the liver dullness upper limit, with the patient lying in dorsal decubitus. When LSE results were categorized into fibrosis Metavir stages, interobserver discordance was noticed in about 25% of the cases and was the highest for F2 and F3 stages and the lowest for F4. Intraobserver (Ric = 0.94), intersite (Ric = 0.92-0.98), and interequipment (Ric = 0.92) agreements for LSE results were excellent. Preliminary standard ultrasonography or probe pressure changes did not improve interobserver agreement. Conclusions The best measurement site for LSE is the one generally used for liver biopsy. Reproducibility of LSE is globally excellent but is fair in patient with low liver stiffness. The fibrosis diagnosis by ultrasonographic elastometry in low stages or categorized into fibrosis Metavir stages must be interpreted with caution.</p>
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