Supplemental Table 1. Preferred Reporting Items for Systematic Reviews and Meta-Analyses checklist

Section/topic	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	1
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	4
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known.	5-6
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	6
METHODS			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	7
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	7
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	7 Supplemental data
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	7 Supplemental data
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	7 Supplemental data
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	7 Supplemental data
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	Supplemental Table 1

Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	7-8
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis.	7-8

Supplemental Table 2 Methodological and reporting quality of the included studies using quality assessment of diagnostic accuracy studies (QUADAS) questionnaire.

QUADAS Assessment Items	**Park, 2017**	**Imajo, 2016**	**Chen, 2017**
1. Was the spectrum of patients representative of the patients who will receive the test in practice?	Yes	Yes	No
2. Were selection criteria clearly described?	Yes	Yes	Yes
3. Is the reference standard likely to correctly classify the target condition?	Yes	Yes	Yes
4. Is the time period between reference standard and index test short enough to be reasonably sure that the target condition did not change between the two tests?	Yes	Yes	Yes
5. Did the whole sample or a random selection of the sample, receive verification using a reference standard of diagnosis?	Yes	Yes	Yes
6. Did patients receive the same reference standard regardless of the index test result?	Yes	Yes	Yes
7. Was the reference standard independent of the index test (i.e. the index test did not form part of the reference standard)?	Yes	Yes	Yes
8. Was the execution of the index test described in sufficient detail to permit replication of the test?	Yes	Yes	Yes
9. Was the execution of the reference standard described in sufficient detail to permit its replication?	Yes	Yes	Yes
10. Were the index test results interpreted without knowledge of the results of the reference standard?	Unclear	Unclear	Yes
11. Was the reference standard results interpreted without knowledge of the results of the index test?	Yes	Unclear	Yes
12. Were the same clinical data available when test results were interpreted as would be available when the test is used in practice?	Yes	Yes	Yes
13. Were uninterpretable/ indeterminate test results reported?	Yes	Yes	Yes
14. Were withdrawals from the study explained?	Yes	Yes	Yes
Total Score (Max=14)	**13**	**12**	**13**

Supplemental Table 3 Comparison of AUROC multi-adjusted for age, sex, bmi, probe, time test-to-biopsy

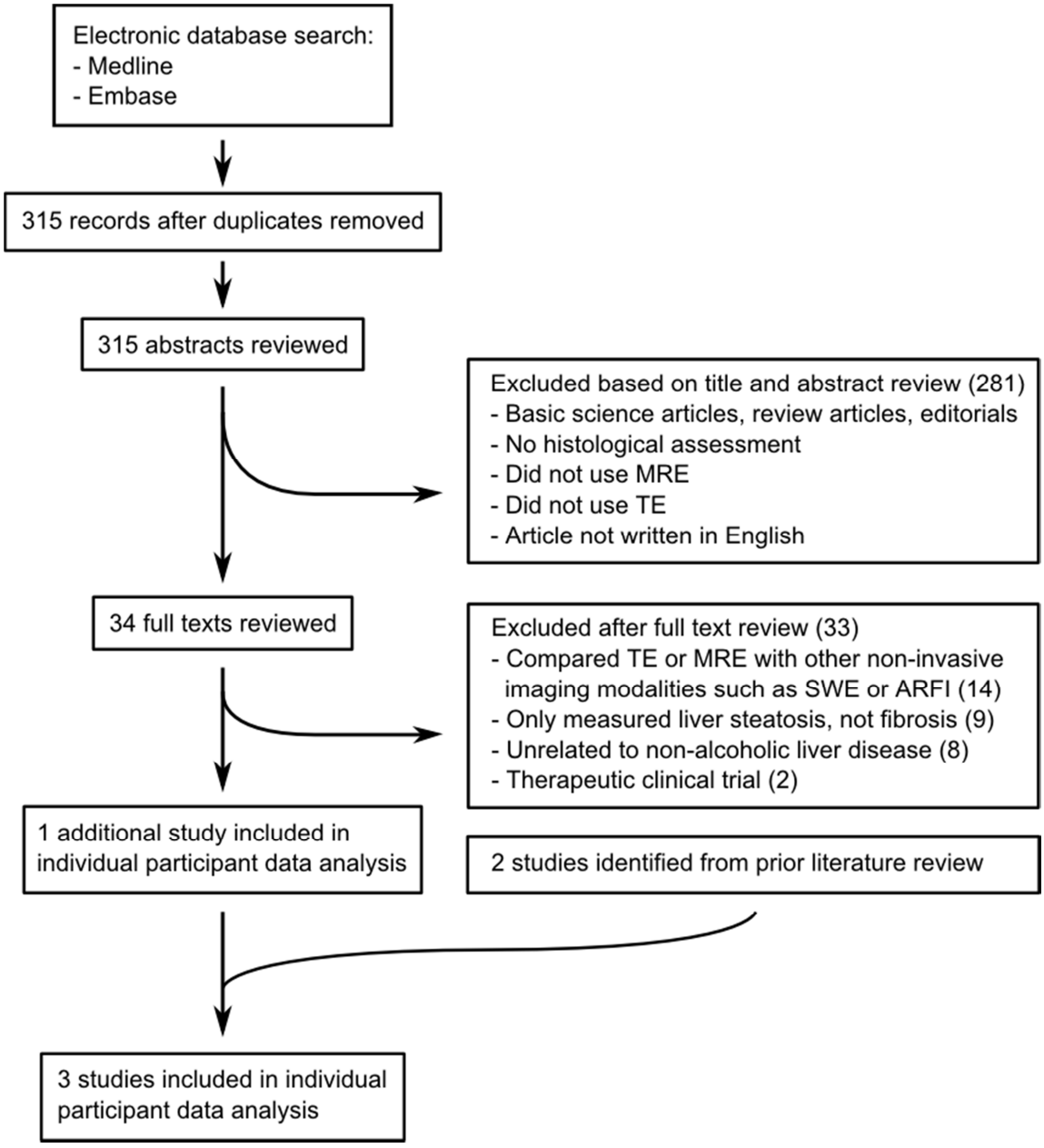
	AUROC (95% CI) age, sex, BMI, probe, test-to-biopsy time – adjusted	TE versus MRE P-value
Stage 1-4 (n=157) versus 0 (n=73)		
MRE	0.8422 (0.7920-0.8923)	**0.0334**
TE	0.7848 (0.7244-0.8453)	
Stage 2-4 (n=93) versus 0-1 (n=137)		
MRE	0.9203 (0.8826-0.9580)	**0.0182**
TE	0.8723 (0.8253-0.9193)	
Stage 3-4 (n=57) versus 0-2 (n=173)		
MRE	0.9331 (0.8953-0.9708)	**0.0029**
TE	0.8700 (0.8178-0.9222)	
Stage 4 (n=25) versus 0-3 (n=205)		
MRE	0.9245 (0.8609-0.9881)	**0.0137**
TE	0.8439 (0.7656-0.9222)	

Supplemental Table 4 Sensitivity analyses of diagnostic performance of MRE and TE for the detection of liver fibrosis

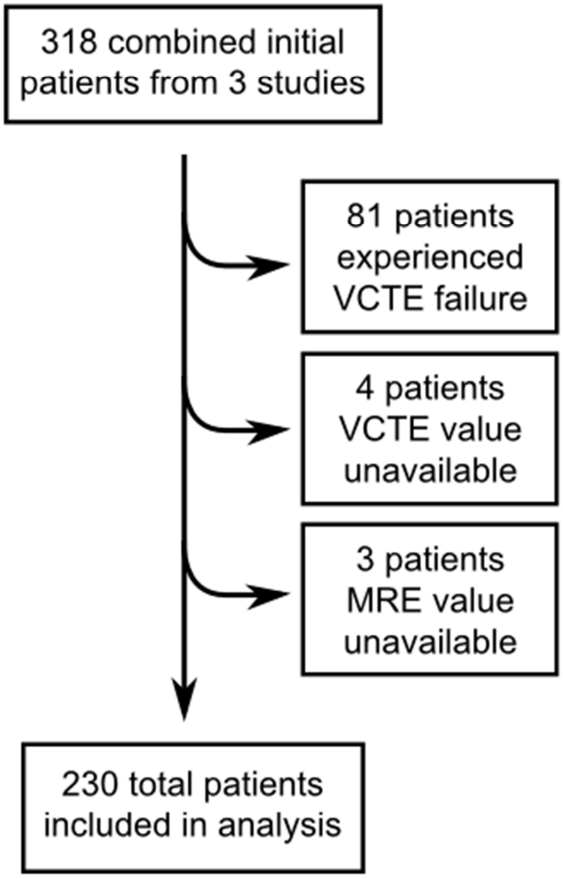
Overall (n=230)	Threshold (kPa)	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)
Stage 1-4 (n=157) versus 0 (n=73)					
MRE	**2.09**	**90**	23.3	71.7	53.1
	2.89	61.2	**90**	93.2	52.0
TE	**4.0**	**90**	19.2	71.1	53.9
	8.7	49.0	**90**	90.6	44.8
Stage 2-4 (n=93) versus 0-1 (n=137)					
MRE	**2.79**	**90**	77.4	73.0	92.2
	3.24	77.4	**90**	83.7	85.4
TE	**5.6**	**90**	52.6	56.4	88.9
	10.1	60.2	**90**	80.0	76.9
Stage 3-4 (n=57) versus 0-2 (n=173)					
MRE	**3.19**	**90**	78.6	58.0	95.8
	4.09	79.0	**90**	70.3	92.8
TE	**5.9**	**90**	48.0	36.6	94.3
	13.4	60.0	**90**	65.4	87.1
Stage 4 (n=25) versus 0-3 (n=205)					
MRE	**3.3**	**90**	69.8	27.1	98.6
	5.0	80.0	**90**	47.6	97.3
TE	**6.3**	**90**	52.2	19.0	98.2
	16.1	56.0	**90**	40.0	94.4

Shown are the threshold, negative predictive value (NPV) and positive predictive value (PPV) for each dichotomized stage of fibrosis, where sensitivity or specificity were fixed at 90%.

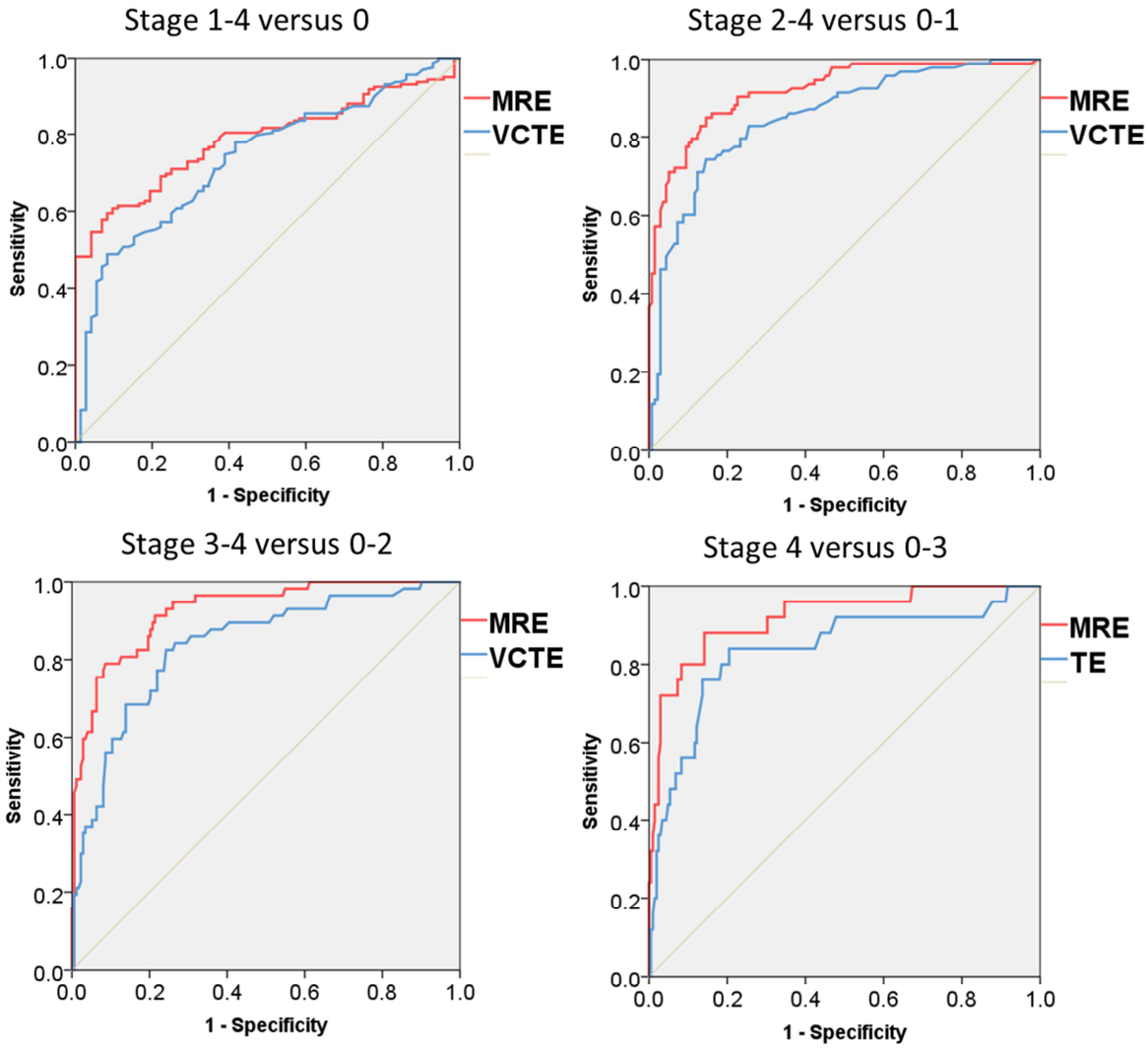
AUROC: Area under the Receiver Operating Characteristic, CI: confidence interval, MRE: magnetic resonance elastography, NPV: negative predictive value, PPV: positive predictive value, TE: vibration controlled transient elastography.



Supplemental Figure 1. Flow chart summarizing study identification and selection.



Supplemental Figure 2. Flow chart summarizing patient exclusion for statistical analysis.



Supplemental Figure 3. ROC Curve of MRE and TE for the diagnosis of dichotomized stage of fibrosis.