LIVERPOOL REVIEWS AND IMPLEMENTATION GROUP (LRIG)

MRI-based technologies for the assessment of patients with non-alcoholic fatty liver disease [DAP59]

EAG Report: Supplementary material 1

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1 EXCLUDED STUDIES FOR THE DIAGNOSTIC TEST ACCURACY AND CLINICAL IMPACT REVIEW

- 1. Alquraish M, Cepin S, Nguyen P, Hernandez C, Bettencourt R, Fortney L, et al. Obesity predicts discordancy between magnetic resonance elastography and transient elastography for the stage of fibrosis in patients with nonalcoholic fatty liver disease. Hepatology 2017; 66:335A. **Wrong publication type**
- 2. Anna O, Michihiro I, Takashi K, Asako N, Yasushi H, Takaomi K, et al. Influence of liver stiffness heterogeneity on concordance of MR elastography-based liver fibrosis staging and biopsy results in patients with nonalcoholic fatty liver disease. Journal of Gastroenterology and Hepatology 2021; 36:104-5. **Wrong publication type**
- 3. Aslam F, Mouchti S, Kelly M, Dennis A, Imajo K, Nakajima A. Investigation of a composite imaging biomarker for identification of non-alcoholic steatohepatitis (NASH) patients in a Japanese population. Journal of Hepatology 2020; 73:S411-S2. **Wrong publication type**
- 4. Beyer C, Hutton C, Andersson A, Imajo K, Nakajima A, Kiker D, et al. Comparison between magnetic resonance and ultrasound-derived indicators of hepatic steatosis in a pooled NAFLD cohort. PloS one 2021; 16:e0249491. **No outcomes of interest**
- 5. Bravo S, Kelly M, Xu P, Banerjee R, Neubauer S, Hollar K, et al. Evaluation of multiparametric MRI in comparison with MR elastography in patients evaluated for chronic liver disease. Journal of Hepatology 2018; 68:S638-S9. **Wrong publication type**
- Caussy C, Ajmera VH, Puri P, Hsu CL-S, Bassirian S, Mgdsyan M, et al. Serum metabolites detect the presence of advanced fibrosis in derivation and validation cohorts of patients with non-alcoholic fatty liver disease. Gut 2019; 68:1884-92. Wrong population
- 7. Choi SJ, Kim SM, Kim YS, Kwon OS, Shin SK, Kim KK, et al. Magnetic Resonance-Based Assessments Better Capture Pathophysiologic Profiles and Progression in Nonalcoholic Fatty Liver Disease. Diabetes & metabolism journal 2020. **Wrong population**
- 8. Dennis A, Kelly M, Fernandes C, Mouchti S, Banerjee R, Fallowfield J, et al. Utility and interpretation of the quantitative MRI metrics PDFF and cT1 as biomarkers for non-alcoholic steatohepatitis. American Journal of Gastroenterology 2020; 115:S589-S90. Wrong publication type

- Dennis A, Kelly MD, Fernandes C, Mouchti S, Fallowfield JA, Hirschfield G, et al. Correlations Between MRI Biomarkers PDFF and cT1 With Histopathological Features of Non-Alcoholic Steatohepatitis. Frontiers in endocrinology 2020; 11:575843. No outcomes of interest
- 10. Dzyubak B, Li J, Chen J, Mara KC, Therneau TM, Venkatesh SK, et al. Automated analysis of multiparametric magnetic resonance imaging/magnetic resonance elastography exams for prediction of nonalcoholic steatohepatitis. Journal of magnetic resonance imaging 2021; 54:122-31. **No outcomes of interest**
- 11. Eddowes PJ, Newsome PN, Hirschfield GM, McDonald N, Fallowfield J, Davies NP, et al. Exclusion of clinically significant non-alcoholic fatty liver disease with multi-parametric magnetic resonance imaging: A prospective evaluation. Hepatology 2016; 64:572A-3A.
 Wrong publication type
- 12. Eddowes P, Newsome P, Hirschfield G, McDonald N, Fallowfield J, Davies N, et al. Validation of multiparametric MRI in the assessment and staging of non-alcoholic fatty liver disease. Gut 2016; 65:A157-A8. **Wrong publication type**
- 13. Filza A, Sofia M, Andrea D, Matt K, Rajarshi B, Kento I, et al. Non-invasive imaging modalities for assessment of fibrosis, inflammation and steatosis in a Japanese NASH population. Hepatology International 2020; 14:S321. **Wrong publication type**
- 14. Freitag CE, Andersson I, Chen W, Hinton A, Levin D, Yearsley MM, et al. Comparison of histologic and magnetic resonance methodologies for the estimation of hepatic steatosis. Laboratory Investigation 2018; 98:805. Wrong publication type
- 15. Imajo K, Iwaki M, Kobayashi T, Honda Y, Kessoku T, Ogawa Y, et al. Impact of liver stiffness heterogeneity on discordance between pathological liver fibrosis stage and mr elastography-based liver stiffness measurements in patients with NAFLD. Hepatology 2020; 72:923A. **Wrong publication type**
- 16. Imajo K, Nagai K, Iwaki M, Kobayashi T, Honda Y, Kessoku T, et al. Comparative performance of non-invasive imaging modalities for the diagnosis of nash in a japanese NAFLD population. Hepatology 2020; 72:905A-6A. **Wrong publication type**
- 17. Kawada T. Validation Study of Elastographies in Patients With Nonalcoholic Fatty Liver Disease for Detecting Liver Fibrosis. Clinical Gastroenterology and Hepatology 2019; 17:2139-40. **Wrong publication type**

- 18. Lee Y-S, Lee M-J, Kim JH, Seo YS, Yim HJ, Yeon JE, et al. Multiparametric MRI effectively evaluated disease severity of nonalcoholic fatty liver disease. Hepatology 2019; 70:1085A. **Wrong publication type**
- 19. Lee Y-S, Yoo YJ, Jung YK, Kim JH, Seo YS, Yim HJ, et al. Multiparametric MR Is a valuable modality for evaluating disease severity of nonalcoholic fatty liver disease. Clinical and translational gastroenterology 2020; 11:e00157. **Wrong population**
- 20. McDonald N, Fallowfield J, Eddowes PJ, Hirschfield GM, Semple SI, Davies NP, et al. Multiparametric assessment of liver disease using quantitative magnetic resonance imaging: A two-centre prospective validation study. Hepatology 2016; 64:323A-4A. Wrong publication type
- 21. Miles L, King E, Kohli R, Xanthakos S, Podberesky D, Serai S. Assessment of hepatic fibrosis in pediatric chronic liver disease with MR elastography. Pediatric Radiology 2014; 44:S71. **Wrong publication type**
- 22. Murphy-Lavallee J, Olivie D, Ilinca A, Lefebvre T, Wartelle-Bladou C, Giard J-M, et al. Prospective comparison of transient, point shear wave, and magnetic resonance elastography for staging liver fibrosis. European Radiology 2019; 29:6477-88. **Wrong population**
- 23. Nogami A, Iwaki M, Kobayashi T, Kessoku T, Honda Y, Saito S, et al. Assessment of hepatic fibrosis by vibration-controlled transient elastography and MR elastography have equivalent diagnostic performance, but in the assessment of hepatic steatosis, MRI PDFF methods are better than controlled attenuation parameter in over. Journal of Gastroenterology and Hepatology 2021; 36:246. **Wrong population**
- 24. Sharpton SR, Bettencourt R, Jung J, Heilman J, Pepin K, Ehman RL, et al. Automated analysis of magnetic resonance elastography and its reproducibility with manual analysis in adults with nonalcoholic fatty liver disease: A goldmine study. Hepatology 2020; 72:893A-4A. **Wrong publication type**
- 25. Sohn W, Kwon H-J, Chang Y, Ryu S, Cho YK. Liver fibrosis in asians with metabolic dysfunction-associated fatty liver disease. Clinical gastroenterology and hepatology 2021. **Wrong study design**

- 26. Tamaki N, Imajo K, Sharpton S, Jung J, Kawamura N, Yoneda M, et al. MRE plus FIB-4 (MEFIB) versus FAST in detection of candidates for pharmacological treatment of NASH-related fibrosis. Hepatology 2021. **Wrong population**
- 27. Tonev D, Shumbayawonda E, Tetlow LA, Herdman L, French M, Rymell S, et al. The effect of multi-parametric magnetic resonance imaging in standard of care for nonalcoholic fatty liver disease: Protocol for a randomized control trial. JMIR research protocols 2020; 9:e19189. **Wrong publication type**
- 28. Yin M, Glaser KJ, Talwalkar JA, Chen J, Manduca A, Ehman RL. Hepatic MR elastography: Clinical performance in a series of 1377 consecutive examinations1. Radiology 2016; 278:114-24. **No outcomes of interest**

2 STUDIES SUGGESTED BY MANUFACTURERS AND REASONS FOR EXCLUSION

2.1 Excluded studies from the reference list suggested by Perspectum Ltd.

- Alkhouri et al. (unpublished) 'MRI assessment (cT1) with LiverMultiScan following VCTE improves the diagnostic yield for high-risk NASH' (Submitted to EASL 2022). Wrong publication type
- 2. Alkhouri et al. (unpublished) 'Sequential testing for high-risk NASH by cT1 from LiverMultiScan improves diagnostic yield compared to the use of MRE alone' (Submitted to DDW 2022). **Wrong publication type**
- 3. Andersson A, Kelly M, Imajo K, Nakajima A, Fallowfield JA, Hirschfield G et al. Clinical utility of MRI biomarkers for identifying NASH patients at high risk of progression: A multicenter pooled data and meta-analysis. Clin Gastroenterol Hepatol 2021; In press. **Wrong study design**
- 4. Beyer C, Hutton C, Andersson A, Imajo K, Nakajima A, Kiker D et al. Comparison between magnetic resonance and ultrasound-derived indicators of hepatic steatosis in a pooled NAFLD cohort. Plos One 2020; 16(4):e0249491. **Wrong study design**
- 5. Brown E, Waddell T, Mouchti S, Roca-Fernandez A, Thomaides-Brears H, Wilton M et al. Multiparametric magnetic resonance imaging of the liver demonstrates the prevalence of steatohepatitis in patients with type 2 diabetes. Diabetologia 2020; 876. Wrong publication type
- 6. Carolan JE, Dennis A, Hutton C, Kelly M (unpublished) Investigating the costeffectiveness of quantitative MRI for identifying adults with suspected NAFLD in Europe. (Accepted to ICFL 2022). **Wrong publication type**
- 7. Cruz M, Ferreira AA, Papanikolaou N, Banerjee R, Alves FC. New boundaries of liver imaging: from morphology to function. Eur J Intern Med; 2020 79:12-22. **Wrong study design**
- 8. Dennis A, Mouchti S, Kelly M, Fallowfield, JA, Hirschfield G, Pavlides M et al. A composite biomarker using multiparametric magnetic resonance imaging and blood analytes accurately identifies patients with non-alcoholic steatohepatitis and significant fibrosis. Sci Rep 2020; 10(1):15308. **Wrong patient population**

- Dennis A, Kelly M, Fernandes C, Mouchti S, Banerjee R, Fallowfield J et al. Utility and interpretation of the quantitative MRI metrics PDFF and cT1 as biomarkers for Nonalcoholic Steatohepatitis. The American College of Gastroenterology 2020; 115(Suppl):S589-90. Wrong publication type
- 10. Harrison S, Roberts K, Paredes A, Lisanti C, Schwope R, Whitehead J et al. Prospective liver biopsy-based prevalence of NAFLD and steatohepatitis among a large middle-aged population utilizing FibroScan, LiverMultiScan and MRE to guide liver biopsy. Journal of Hepatology. 2019; 70(1):e770-1 Wrong publication type
- 11. Harrison SA, Dennis A, Fiore MM, Kelly MD, Kelly CJ, Paredes AH et al. Utility and variability of three non-invasive liver fibrosis imaging modalities to evaluate efficacy of GR-MD-02 in subjects with NASH and bridging fibrosis during a phase-2 randomized clinical trial. PLoS ONE 2018; 13(9):e0203054. **Wrong population**
- 12. Harrison SA, Gawrieh S, Roberts K, Lisanti CJ, Schwope RB, Cebe KM et al. Prospective evaluation of the prevalence of non-alcoholic fatty liver disease and steatohepatitis in a large middle-aged US cohort. Journal of Hepatology 2021; 75(2):284-91. Wrong study design
- Hydes TJ, Summers N, Brown E, Wilding JPH, Cuthbertson DJ, Alam U et al. Mechanisms, screening modalities and treatment options with NAFLD and type 2 diabetes. Diabet Med 2020; 37(11):1793-1806. Wrong study design
- 14. Noureddin M, Beyer C, Loomba R, Harisinghani M, Harrison S, Alkhouri N et al. (unpublished) Decreases in liver cT1 accurately reflect histological improvement induced by therapies in NASH with enhanced sensitivity to fibrosis change: a multi-centre pooled cohort analysis. (Submitted to EASL 2022). **Wrong publication type**
- 15. Samur SS, Carolan JE, Chhatwal J et al. Comparative cost-effectiveness of multiparametric magnetic resonance imaging for detection of high-risk NASH. Hepatology 2020; 904A-5A. **Wrong publication type**
- 16. Thomaides-Brears HB, Lepe R, Banerjee R, Duncker C et al. Multiparametric MR mapping in clinical decision-making for diffuse liver disease. Abdom Radiol 2020; 45(11):3507-3522. **Wrong study design**

2.2 Excluded studies from the reference list suggested by Resoundant, Inc.

- 1. Ajmera V, Loomba R. Imaging biomarkers of NAFLD, NASH, and fibrosis. Mol Metab 2021; 50:101167. **Wrong study design**
- Allen AM, Shah VH, Therneau TM, Venkatesh SK, Mounajjed T, Larson JJ et al. Multiparametric magnetic resonance elastography improves the detection of NASH regression following bariatric surgery. Hepatol Commun 2020; 4(2):185-92. Wrong population
- 3. Chen J, Allen A, Therneau T, Chen J, Li J, Hoodeshenas S et al. Liver stiffness measurement by magnetic resonance elastography is not affected by hepatic steatosis. Eur Radiol 2021; 32:950-8. **Wrong population**
- 4. Costa-Silva L, Ferolla SM, Lima AS, Vidigal P, Ferrari T. MR elastography is effective for the non-invasive evaluation of fibrosis and necroinflammatory activity in patients with nonalcoholic fatty liver disease. Eur J Radiol 2018; 98: 82-9. **Wrong population**
- 5. Crossan C, Tsochatzis EA, Longworth L, Gurusamy K, Davidson B, Rodríguez-Perálvarez M et al. Cost-effectiveness of non-invasive methods for assessment and monitoring of liver fibrosis and cirrhosis in patients with chronic liver disease: systematic review and economic evaluation. Health Technol Assess 2015; 19(9). Wrong intervention
- 6. Cui J, Ang B, Haufe W, Hernandez C, Verna EC, Sirlin CB et al. Comparative diagnostic accuracy of magnetic resonance elastography vs. eight clinical prediction rules for non-invasive diagnosis of advanced fibrosis in biopsy-proven non-alcoholic fatty liver disease: A prospective study. Aliment Pharmacol Ther 2015; 41:1271-80. Wrong population
- 7. Dzyubak B, Li J, Chen J, Mara K, Therneau T, Venkatesh S et al. Automated analysis of multiparametric magnetic resonance imaging/magnetic resonance elastography exams for prediction of nonalcoholic steatohepatitis. JMRI 2021; 54(1):122-131. **No outcomes of interest**
- 8. Gidener T, Yin M, Dierkhising R, Allen A, Ehman R, Venkatesh S. MRE for prediction of long-term progression and outcome in chronic liver disease: A retrospective study. Hepatology 2021; 75: 10. **Wrong publication type**

- 9. Han M, Vipani A, Noureddin N, Ramirez K, Gornbein J, Saouaf R et al. MR elastography-based liver fibrosis correlates with liver events in nonalcoholic fatty liver patients: A multicenter study. Liver Int 2020; 40(9):2242–2251. **No outcomes of interest**
- 10. Higuchi M, Tamaki N, Kurosaki M, Inada K, Kirino S, Yamashita K et al. Changes of liver stiffness measured by magnetic resonance elastography during direct-acting antivirals treatment in patients with chronic hepatitis C. J Med Virol 2020; 93:3744-51. Wrong population
- 11. Hsu C, Caussy C, Imajo K, Chen J, Singh S, Kaulback K et al. Magnetic resonance vs. transient elastography analysis of patients with nonalcoholic fatty liver disease: A systematic review and pooled analysis of individual participants. Clin Gastroenterol Hepatol 2019; 17:630–637. **Wrong study design**
- 12. Jung J, Loomba RR, Imajo K, Madamba E, Gandhi S, Bettencourt R et al. MRE combined with FIB-4 (MEFIB) index in detection of candidates for pharmacological treatment of NASH-related fibrosis. Gut 2021; 70(10):1946–53. **Wrong population**
- 13. Lee YS, Yoo YJ, Jung YK, Kim JH, Seo YS, Yim HJ et al. Multiparametric MR is a valuable modality for evaluating disease severity of nonalcoholic fatty liver disease. CTG 2020; 11(4):e00157. **Wrong population**
- 14. Li J, Allen A, Shah V, Manduca A, Ehman R, Yin M. (2021) Longitudinal Changes in MR Elastography-based Biomarkers in Obese Patients Treated with Bariatric Surgery. Clin Gastroenterol Hepatol 2021; In press. **Wrong population**
- 15. Liang Y, Li D. Magnetic resonance elastography in staging liver fibrosis in non-alcoholic fatty liver disease: A pooled analysis of the diagnostic accuracy. BMC Gastroenterol 2020; 20(1):89. **Wrong study design**
- 16. Noureddin M, Truong E, Gornbein JA, Saouaf R, Guindi M, Todo T et al. MRI-based (MAST) score accurately identifies patients with NASH and significant fibrosis. J Hepatol 2021; In press. **Wrong intervention**
- 17. Patel NS, Hooker J, Gonzalez M, Bhatt A, Nguyen P, Ramirez K et al. Weight loss decreases magnetic resonance elastography estimated liver stiffness in nonalcoholic fatty liver disease. Clin Gastroenterol Hepatol 2017; 15:463-4. **No outcomes of interest**
- 18. Selvaraj EA, Mozes FE, Jayaswal ANA, Zafarmand MH, Vali Y, Lee JA et al.

 Diagnostic accuracy of elastography and magnetic resonance imaging in patients with MRI-based technologies for the assessment of patients with NAFLD

NAFLD: A systematic review and meta-analysis. J Hepatol 2021; 75 (4):770–785. **Wrong study design**

- 19. Singh S, Fujii LL, Murad MH, Wang Z, Asrani SK, Ehman RL et al. Liver stiffness is associated with risk of decompensation, liver cancer, and death in patients with chronic liver diseases: a systematic review and meta-analysis. Clin Gastroenterol Hepatol 2013; 11(12):1573–e89. Wrong study design
- 20. Vilar-Gomez E, Lou Z, Kong N, Vuppalanchi R, Imperiale TF, Chalasani N. Cost effectiveness of different strategies for detecting cirrhosis in patients with nonalcoholic fatty liver disease based on United States health care system. Clin Gastroenterol Hepatol 2020; 18(10):2305–2314.e12. **Wrong intervention**
- 21. Zhang E, Wartelle-Bladou C, Lepanto L, Lachaine J, Cloutier G, Tang A. Cost-utility analysis of nonalcoholic steatohepatitis screening. Eur Radiol 2015; 25(11):3282-94. Wrong population

3 EXCLUDED STUDIES FOR THE COST EFFECTIVENESS REVIEW

- 1. Alisi A, Nobili V. Sensitive non-invasive circulating markers in paediatric non-alcoholic fatty liver disease. Pediatric Obesity 2012; 7:89–91. **Wrong intervention**
- 2. Ando Y, Jou JH. Nonalcoholic Fatty Liver Disease and Recent Guideline Updates. Clinical Liver Disease 2021;17(1):23-28. **Wrong intervention**
- 3. Blake L, Duarte RV, Cummins C. Decision analytic model of the diagnostic pathways for patients with suspected non-alcoholic fatty liver disease using non-invasive transient elastography and multiparametric magnetic resonance imaging. BMJ Open 2016;6(9):e010507. Wrong study design
- 4. Boursier J, Cales P. Controlled attenuation parameter (CAP): A new device for fast evaluation of liver fat? Liver International 2012; 32(6):875-877. Wrong intervention
- Castera L, Friedrich-Rust M, Loomba R. Noninvasive Assessment of Liver Disease in Patients With Nonalcoholic Fatty Liver Disease. Gastroenterology 2019;156(5):1264.
 Wrong study design
- 6. Chen J, Yin M, Glaser KJ, Talwalkar JA, Ehman RL. MR elastography of liver disease: State of the art. Applied Radiology 2013;42(4):5-12. **Wrong intervention**
- 7. Cleveland E, Bandy A, VanWagner LB. Diagnostic challenges of nonalcoholic fatty liver disease/nonalcoholic steatohepatitis. Clinical Liver Disease 2018;11(4):98-104. **Wrong intervention**
- 8. Crossan C, Longworth L, Tsochatzis EA, Rodriguez-Peralvarez M, Mantzoukis K, O'Brien J et al. Cost-effectiveness of non-invasive methods for assessment and monitoring of liver fibrosis and cirrhosis in patients with chronic liver disease: Systematic review and economic evaluation. Health Technology Assessment 2015;19(9):1-458. **Wrong intervention**
- 9. de Alwis NMW, Anstee QM, Day CP. How to Diagnose Nonalcoholic Fatty Liver Disease. Digestive diseases 2016;34 Suppl 1(dds, 8701186):19-26. **Wrong intervention**
- 10. Degnan AJ, Serai SD, Anupindi SA, Panganiban J, Dhyani M. Imaging Modalities in Pediatric NAFLD. Clinical Liver Disease 2021;17(3):200-208. **Wrong intervention**

- Jiang ZG, Tapper EB. Cost Saving or Cost Effective? Unanswered Questions in the Screening of Patients With Nonalcoholic Fatty Liver Disease. Hepatology Communications 2019;3(10):1293-1295. Wrong study design
- 12. Kayadibi H, Sertoglu E, Uyanik M. Biochemical Markers, Liver Biopsy, or Magnetic Resonance Elastography to Detect or Exclude Advanced Fibrosis in Patients With Nonalcoholic Fatty Liver Disease. Hepatology 2015;62(1):324-325. **Wrong intervention**
- 13. Lee SS, Park SH. Radiologic evaluation of nonalcoholic fatty liver disease. World journal of gastroenterology 2014;20(23):7392-402. **Wrong study design**
- 14. Martinez SM, Crespo G, Navasa M, Forns X. Noninvasive assessment of liver fibrosis. Hepatology 2011;53(1):325-335. **Wrong intervention**
- 15. Mishra A, Younossi ZM, Bush H, Henry L. Clinical and Economic Burden of Nonalcoholic Fatty Liver Disease and Nonalcoholic Steatohepatitis. Clinics in Liver Disease 2018;22(1):1-10. **Wrong intervention**
- 16. Nathan R, Jain D, Rossi S. CON: This Patient Should Have a Noninvasive Assessment of Liver Staging. Clinical Liver Disease / 2019;14(3):116-120. **Wrong intervention**
- 17. NCT03289897. Non-invasive Rapid Assessment of NAFLD Using Magnetic Resonance Imaging With LiverMultiScan 2017. **Wrong study design**
- 18. Noureddin M, Khoyilar C, Palmer SL. MRI, CT scan, and ultrasound in the diagnosis of nonalcoholic fatty liver disease. Journal of Clinical Gastroenterology 2015;49(4):351-352. **Wrong intervention**
- 19. Paul S, Davis AM. Diagnosis and Management of Nonalcoholic Fatty Liver Disease. JAMA 2018; 320:23:2474-2475. **Wrong intervention**
- 20. Ronot M, Vilgrain V. Multiparametric magnetic resonance imaging in patients with chronic liver disease: Are we there yet? Liver International 2016;36(5):631-633. **Wrong intervention**
- 21. Shiha G, Ibrahim A, Sarin S, Kumar M, Omata M, Hemy A, et al. Asian-Pacific Association for the Study of the Liver (APASL) consensus guidelines on invasive and non-invasive assessment of hepatic fibrosis: a 2016 update. Hepatology International 2017;11(1). Wrong study design

- 22. Stoopen-Rometti M, Ramirez-Carmona CR, Kimura-Hayama E, Saavedra-Abril JA, Encinas-Escobar ER, Wolpert-Barraza E, et al. Diagnosis and quantification of fibrosis, steatosis, and hepatic siderosis through multiparametric magnetic resonance imaging. Revista de Gastroenterologia de Mexico 2017;82(1):32-45. **Wrong intervention**
- 23. Taouli B, Serfaty L. Magnetic Resonance Imaging/Elastography Is Superior to Transient Elastography for Detection of Liver Fibrosis and Fat in Nonalcoholic Fatty Liver Disease. Gastroenterology / 2016;150(3):553-556. Wrong intervention
- 24. Tonev D, Shumbayawonda E, Tetlow LA, Herdman L, French M, Rymell S et al. The Effect of Multi-Parametric Magnetic Resonance Imaging in Standard of Care for Nonalcoholic Fatty Liver Disease: Protocol for a Randomized Control Trial. JMIR research protocols 2020;9(10):e19189. Wrong study design
- 25. Vilar-Gomez E, Vuppalanchi R, Chalasani N, Lou Z, Kong N, Imperiale TF. Cost Effectiveness of Different Strategies for Detecting Cirrhosis in Patients With Nonalcoholic Fatty Liver Disease Based on United States Health Care System. Clinical Gastroenterology and Hepatology 2020;18(10):2305. **Wrong intervention**
- 26. Vuppalanchi R, Chalasani N. Screening Strategies for Nonalcoholic Steatohepatitis in High-Risk Individuals: Trimming Away the Fat. Digestive Diseases and Sciences 2016;61(7):1790-1792. **Wrong study design**
- 27. Zhang E, Wartelle-Bladou C, Lepanto L, Lachaine J, Cloutier G, Tang A. Cost-utility analysis of nonalcoholic steatohepatitis screening. European Radiology 2015;25(11):3282-3294. **Wrong patient population**
- Zhang J, Cai J-J, Yu Y, She Z-G; Li H. Nonalcoholic fatty liver disease: An update on the diagnosis. Gene Expression The Journal of Liver Research 2019;19(3):187-198.
 Wrong intervention
- 29. Zhou J-H, She Z-G. Li H-L, Cai J-J. Noninvasive evaluation of nonalcoholic fatty liver disease: Current evidence and practice. World Journal of Gastroenterology 2019;25(11):1307-1326. **Wrong intervention**