



<b>Title</b>	<b>A Systematic Review and Economic Evaluation of Magnetic Resonance Cholangiopancreatography Compared with Diagnostic Endoscopic Retrograde Cholangiopancreatography</b>
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<b>Reference</b>	Health Technol Assess 2004;8(10). Mar 2004. <a href="http://www.nchta.org/execsumm/summ810.htm">www.nchta.org/execsumm/summ810.htm</a>

## Aim

To compare the clinical and cost effectiveness of magnetic resonance cholangiopancreatography (MRCP) with diagnostic endoscopic retrograde cholangiopancreatography (ERCP) for the investigation of biliary obstruction.

## Conclusions and results

The median sensitivity for choledocholithiasis (13 studies) was 93% and the median specificity was 94%. The median likelihood ratio for a positive value was 15.75 and for a negative value 0.08. Reported sensitivities for malignancy were somewhat lower, ranging from 81% to 86%, and specificities ranged from 92% to 100%. There was some evidence that MRCP is an accurate diagnostic test in comparison to ERCP, although the quality of studies was moderate. Claustrophobia prevented at least some patients from having MRCP in 10 of the 28 studies. The other 18 studies did not mention claustrophobia. The probability of avoiding unnecessary diagnostic ERCP is estimated at 30%. These patients could avoid the unnecessary risk of complications and death associated with diagnostic ERCP, and substantial cost saving would be gained. The overall expected cost saving associated with MRCP is £149, and the overall expected gain in quality-adjusted life-year is estimated at 0.011.

## Recommendations

Some evidence shows that MRCP is an accurate investigation compared with diagnostic ERCP, although the values for malignancy compared with choledocholithiasis were somewhat lower. The quality of studies was moderate. Limited evidence on patient satisfaction showed that patients preferred MRCP to diagnostic ERCP. The estimated clinical and economic impacts of diagnostic MRCP versus diagnostic ERCP are favorable. The baseline estimate is that MRCP may reduce cost and improve quality of life outcomes compared with diagnostic ERCP.

## Methods

The data sources were searched, and selected studies were assessed using quality criteria. We identified 28 prospective diagnostic studies reporting several suspected conditions, plus one of patient satisfaction. Analyses were performed to establish sensitivities, specificities, likelihood ratios, and confidence intervals. The relative cost effectiveness of adopting MRCP scanning in investigating the biliary tree was undertaken using a probabilistic economic model.

## Further research/reviews required

Further research is suggested to compare MRCP and diagnostic ERCP with final diagnosis and also with the full range of target conditions; to examine patient satisfaction and ways of reducing problems with claustrophobia; to look at protocols to help identify who could benefit most from MRCP or ERCP; to assess the relative need and urgency of patient access to magnetic resonance imaging services, and to determine how demand would affect availability and potential cost savings.