

# Using the SpyGlass™ DS Direct Visualization System to Find and Fragment a Difficult Stone



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## technique spotlight

### Patient History & Assessment

A 41-year-old male with history of cholecystectomy developed jaundice and cholangitis. He underwent MRCP that revealed a large stone in the cystic duct stump leading to common hepatic duct compression and intrahepatic ductal dilation "Mirizzi Syndrome". He had two previous unsuccessful ERCP attempts at cystic duct stone extraction. A biliary stent had been placed and the patient was referred to the Center for Interventional Endoscopy in Orlando for ERCP and stone extraction from the cystic duct.

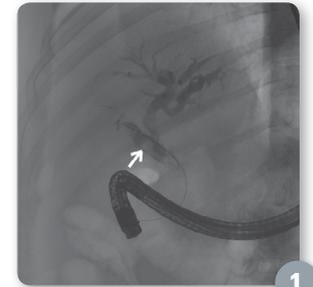
### Procedure

The patient underwent an ERCP and the previously placed biliary stent was removed. A cholangiogram showed a 1.2cm stone in the cystic duct stump (Figure 1) leading to biliary ductal compression and obstruction. The distal common bile duct was 7mm in diameter. The DASE (*Dilation Assisted Stone Extraction*) procedure was performed of the distal bile duct with a 8mm-10mm CRE™ Balloon Dilatation Catheter. Selective cystic duct cannulation attempts at stone extraction with a 3.0cm Trapezoid™ Basket and a 1.5cm Trapezoid basket were unsuccessful. The Trapezoid Basket could not be positioned in an effective manner to capture the stone for mechanical lithotripsy.

The SpyGlass DS System was then mounted onto the duodenoscope and advanced into the cystic duct stump. There was excellent visualization of the stone (Figure 2). Holmium laser lithotripsy was performed to break the stone into small pieces (Figure 3). The duct was subsequently cleared with an extraction balloon and duct clearance was confirmed using the SpyGlass DS System.

### Discussion

This case illustrates the benefit of direct ductal and stone visualization using the SpyGlass DS System. In this case, a basket could not manage to effectively trap the stone for lithotripsy and the



Fluoroscopic image of the stone in the cystic duct



Cystic duct stone image by SpyGlass DS



Stone after lithotripsy

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stone was too large to remove with an extraction balloon without lithotripsy. The SpyGlass DS System provided easy access to the cystic duct for laser lithotripsy and helped with the removal of the stone in this “difficult stone case.” The SpyGlass DS System should be considered as one of the primary tools for difficult stone extraction to avoid need to repeat ERCPs.

## Potential Economic Impact (US Only)

The use of SpyGlass DS System may have helped to avoid ERCP procedures, costing between \$1,879 and \$3,820.

| CPT® Code | Description  | 2014 Medicare Geometric Mean Cost - Outpatient Hospital |
|-----------|--|---|
| 43264     | Endoscopic retrograde cholangiopancreatography (ERCP); with removal of calculi/debris from biliary/pancreatic duct(s)  | \$2,246   |
| 43265     | Endoscopic retrograde cholangiopancreatography (ERCP); with destruction of calculi, any method (eg, mechanical, electrohydraulic, lithotripsy)   | \$3,636   |
| 43274     | Endoscopic retrograde cholangiopancreatography (ERCP); with placement of endoscopic stent into biliary or pancreatic duct, including pre- and post-dilation and guide wire passage, when performed, including sphincterotomy, when performed, each stent | \$3,820   |
| 43275     | Endoscopic retrograde cholangiopancreatography (ERCP); with removal of foreign body(s) or stent(s) from biliary/pancreatic duct(s)   | \$1,879   |
| 43277     | Endoscopic retrograde cholangiopancreatography (ERCP); with trans-endoscopic balloon dilation of biliary/pancreatic duct(s) or of ampulla (sphincteroplasty), including sphincterotomy, when performed, each duct  | \$2,606   |

Source: Medicare's CY 2016 Cost Statistics File

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