The concept of natural orifice transluminal endoscopic surgery (NOTES) consists of the reduction of access trauma by using a natural orifice access to the intra-abdominal cavity. This could possibly lead to less postoperative pain, quicker recovery from surgery, fewer postoperative complications, fewer wound infections, and fewer long-term problems such as hernias. The Euro-NOTES Foundation has organized yearly meetings to work on this concept to bring it safely into clinical practice. The aim of this Euro-NOTES status update is to assess the yearly scientific working group reports and provide an overview on the current clinical practice of NOTES procedures. After the Euro-NOTES meeting 2011 in Frankfurt, Germany, an analysis was started regarding the most important topics of the European working groups. All prospectively documented information was gathered from Euro-NOTES and D-NOTES working groups from 2007 to 2011. The top five topics were analyzed. The statements of the working group activities demonstrate the growing information and changing insights. The most important selected topics were infection issue, peritoneal access, education and training, platforms and new technology, closure, suture, and anastomosis. The focus on research topics changed over time. The principle of hybrid access has overcome the technical and safety limitations of pure NOTES. Currently the following NOTES access
routes are established for several indications: transvaginal access for cholecystectomy, appendectomy and colon resections; transesophageal access for myotomy; transgastric access for full-thickness small-tumor resections; and transanal/transcolonic access for rectal and colon resections. NOTES and hybrid NOTES techniques have emerged for all natural orifices and were introduced into clinical practice with a good safety record. There are different indications for different natural orifices. Each technique has been optimized for the purpose of finding a safe and realistic solution to perform the procedure according to the specific indication.