

# cpt 2011 Changes

An Insider's View

*Reprint*



## **Clinical Example (43332)**

A 74-year-old female has an intrathoracic herniation of the stomach. Her symptoms are intermittent dysphagia, prandial chest pain, and regurgitation. The symptoms are unresponsive to medication, and the patient is referred for surgical repair.

## **Description of Procedure (43332)**

A midline laparotomy is made and the left lobe of the liver is mobilized to expose the hiatus. Adhesions between the liver, stomach, and crura are meticulously taken down. The crura are identified and the hernia sac is entered to allow access to the intrathoracic stomach. The stomach is mobilized out of the sac and reduced into the abdomen, and a dissection plane is established outside the hernia sac beginning at the edge of the hiatus. The hernia sac is mobilized circumferentially and reduced into the abdominal cavity. The sac is then resected off the gastroesophageal junction, taking care not to harm the vagus nerve. The gastroesophageal junction is dissected circumferentially, and an intrathoracic mobilization of the distal esophagus is accomplished. If the gastroesophageal junction cannot be easily reduced 3 cm below the hiatus, a lengthening procedure is performed (reported separately). If not previously divided, the short gastric vessels and gastrophrenic and gastrosplenic ligaments are taken down, creating a generous retroesophageal window. A 56-French esophageal dilator is advanced into the esophagus by the anesthesiologist so that it can be used to appropriately "size" the crural repair and fundoplication. The crural pillars are then reapposed with three to five sutures posteriorly to narrow the grossly enlarged hiatus. The posterior fundic wall is then brought through the retroesophageal window so that it lies to the right of the esophagus. The complete fundoplication is constructed by bringing the anterior fundus over the top of the gastroesophageal junction and sewing it to the posterior fundus with three sutures. Each suture encompasses a generous bite

of the anterior fundic wall, the esophageal musculature, and the retroesophageal posterior fundic wall. A partial wrap would entail suturing fundic wall to each respective crus and esophagus. The dilator is removed, hemostasis is obtained, and the peritoneal cavity is irrigated with saline. The midline laparotomy incision is then closed.



### **Clinical Example (43333)**

A 74-year-old female has an intrathoracic herniation of the stomach. Her symptoms are intermittent dysphagia, prandial chest pain, and regurgitation. The symptoms are unresponsive to medication, and the patient is referred for surgical repair.

### **Description of Procedure (43333)**

A midline laparotomy is made and the left lobe of the liver is mobilized to expose the hiatus. Adhesions between the liver, stomach, and crura are meticulously taken down. The crura are identified and the hernia sac is entered to allow access to the intrathoracic stomach. The stomach is mobilized out of the sac and reduced into the abdomen, and a dissection plane is established outside the hernia sac beginning at the edge of the hiatus. The hernia sac is mobilized circumferentially and reduced into the abdominal cavity. The sac is then resected off the gastroesophageal junction, taking care not to harm the vagus nerve. The gastroesophageal junction is dissected circumferentially, and an intrathoracic mobilization of the distal esophagus is accomplished. If the gastroesophageal junction cannot be easily reduced 3 cm below the hiatus, a lengthening procedure is performed (reported separately). If not previously divided, the short gastric vessels and gastrophrenic and gastrosplenic ligaments are taken down, creating a generous retroesophageal window. A 56-French esophageal dilator is advanced into the esophagus by the anesthesiologist so that it can be used to appropriately “size” the crural repair and fundoplication. The crural pillars are then reapproximated in a trial fashion, but the hiatus is too large and flimsy to allow closure without significant tension without mesh. Accordingly, mesh is brought onto the field and sized to the approximate size of the crura. The mesh is then sewn onto the margins of the crura allowing the appropriate opening for the esophagus or as a buttress to strengthen repair and serve as a fascial support function. The posterior fundic wall is then brought through the retroesophageal window so that it lies to the right of the esophagus. A complete fundoplication is constructed by bringing the anterior fundus over the top of the gastroesophageal junction and sewing it to the posterior fundus with three sutures. Each suture encompasses a generous bite of the anterior fundic wall, the esophageal musculature, and the retroesophageal posterior fundic wall. A partial wrap would suture fundus to each respective crus and esophagus. The dilator is removed, hemostasis is obtained, and the peritoneal cavity is irrigated with saline. The midline laparotomy incision is then closed.



### **Clinical Example (43334)**

A 66-year-old male presents with a paraesophageal hiatal hernia causing postprandial chest pain, regurgitation, and dyspnea. He has undergone multiple previous

upper abdominal procedures including incisional hernia repair with mesh. He is referred for surgical repair.

#### **Description of Procedure (43334)**

A left thoracotomy is made and the inferior pulmonary ligament is divided to mobilize the lung and expose the mediastinum. The mediastinal pleura is incised overlying the esophagus from the aortic arch, over the hernia sac, and down to the diaphragm. The esophagus is mobilized circumferentially beginning immediately under the arch and extending down to the gastroesophageal junction. The hernia sac is identified and opened anterior to the esophagus. The sac is then divided circumferentially along both crural pillars. This entails dividing Belsey's artery and entering the lesser sac in the retroesophageal space. The hernia sac and gastroesophageal fat pad are then excised, taking great care not to harm either vagus nerve during dissection. The short gastric vessels are exposed in the chest by gentle traction on the greater curve of the stomach. These vessels are ligated and divided as are the gastrophrenic and gastrosplenic ligaments. If the gastroesophageal junction cannot be easily reduced 3 cm below the hiatus, a lengthening procedure is performed (reported separately). A 56-French esophageal dilator is advanced into the esophagus by the anesthesiologist so that it can be used to appropriately "size" the crural repair and fundoplication. The posterior fundic wall is brought posterior to the esophagus while the anterior fundus is folded over the anterior aspect of the gastroesophageal junction. The fundoplication is completed by placing three sutures to fashion a circumferential wrap of the stomach around the esophagus just above the gastroesophageal junction. Each suture encompasses a generous bite of the anterior fundic wall, the esophageal musculature, and the retroesophageal posterior fundic wall. The fundoplication is then reduced below the diaphragm into the abdomen. The crural pillars are apposed with three to five sutures posterior to the esophagus to narrow the hiatus. The surgeon decides whether or not crural reinforcement is indicated and proceeds accordingly with mesh reinforcement if indicated. The dilator is removed, hemostasis is obtained, and the thoracic cavity is irrigated with saline. A chest tube is placed, the lung re-expanded, and the thoracotomy incision is then closed.



#### **Clinical Example (43335)**

A 66-year-old male presents with a paraesophageal hiatal hernia causing postprandial chest pain, regurgitation, and dyspnea. He has undergone multiple previous upper abdominal procedures including incisional hernia repair with mesh. He is referred for surgical repair.

#### **Description of Procedure (43335)**

A left thoracotomy is made and the inferior pulmonary ligament is divided to mobilize the lung and expose the mediastinum. The mediastinal pleura is incised overlying the esophagus from the aortic arch, over the hernia sac, and down to the diaphragm. The esophagus is mobilized circumferentially beginning immediately under the arch and extending down to the gastroesophageal junction. The hernia sac is identified and opened anterior to the esophagus. The sac is then divided circumferentially along both crural pillars. This entails dividing Belsey's artery and entering the lesser sac in the retroesophageal space. The hernia sac and

gastroesophageal fat pad are then excised, taking great care not to harm either vagus nerve during dissection. The short gastric vessels are exposed in the chest by gentle traction on the greater curve of the stomach. These vessels are ligated and divided as are the gastrophrenic and gastrosplenic ligaments. If the gastroesophageal junction cannot be easily reduced 3 cm below the hiatus, a lengthening procedure is performed (reported separately). A 56-French esophageal dilator is advanced into the esophagus by the anesthesiologist so that it can be used to appropriately “size” the crural repair and fundoplication. The posterior fundic wall is brought posterior to the esophagus while the anterior fundus is folded over the anterior aspect of the gastroesophageal junction. The fundoplication is completed by placing three sutures to fashion a circumferential wrap of the stomach around the esophagus just above the gastroesophageal junction. Each suture encompasses a generous bite of the anterior fundic wall, the esophageal musculature, and the retroesophageal posterior fundic wall. The fundoplication is then reduced below the diaphragm into the abdomen. The crural pillars are apposed in a preliminary fashion, which reveals undue tension on the crura, which are very thin. Accordingly, mesh is brought onto the field and sized appropriately for the widened crural defect. The mesh is then sewn along the rim of the crura, leaving the appropriate amount of opening around the esophagus. The dilator is removed, hemostasis is obtained, and the thoracic cavity is irrigated with saline. A chest tube is placed, the lung re-expanded, and the thoracotomy incision is then closed.



### **Clinical Example (43336)**

A 67-year-old female has undergone two previous anti-reflux procedures and now presents with recurrent severe substernal burning, nocturnal waterbrash, and dysphagia secondary to a recurrent paraesophageal hernia. Imaging confirms the wrap has broken down and the hernia has recurred. The patient is referred for repeat antireflux surgery.

### **Description of Procedure (43336)**

A left thoracotomy is made in the 7th interspace and extended across the costal cartilage into the abdominal musculature. The abdomen and chest are entered and the inferior pulmonary ligament is divided to mobilize the lung and expose the mediastinum. The mediastinal pleura is incised overlying the esophagus from the aortic arch down to the diaphragm. Adhesions surrounding the previously dissected esophagus are carefully taken down and the esophagus is mobilized circumferentially beginning immediately under the arch and extending down to the gastroesophageal junction. The diaphragm is incised and taken down off the chest wall circumferentially. The subdiaphragmatic adhesions that fix the gastric body to the liver and crura and prevent reduction of the stomach into the abdomen are then carefully dissected. A 56-French esophageal dilator is advanced into the esophagus by the anesthesiologist so that it can be used to appropriately “size” the crural repair and fundoplication. The gastroesophageal junction is reduced 3 cm into the abdomen. If this cannot be accomplished, a lengthening procedure is performed (reported separately). The posterior fundic wall is then brought posterior to the esophagus while the anterior fundus is folded over the anterior aspect of the gastroesophageal junction. The fundoplication is completed by placing three sutures to fashion a circumferential wrap of the stomach around the esophagus

just above the gastroesophageal junction. Each suture encompasses a generous bite of the anterior fundic wall, the esophageal musculature, and the retroesophageal posterior fundic wall. The fundoplication is then reduced below the diaphragm into the abdomen. The crural pillars are apposed with one to three sutures posterior to the esophagus to narrow the hiatus. The dilator is removed, hemostasis is obtained, and the abdominal and thoracic cavities are irrigated with saline. The diaphragmatic incision is closed and the costal arch reconstructed. A chest tube is placed, the lung re-expanded, and the thoracoabdominal incision is then closed.



### **Clinical Example (43337)**

A 67-year-old female has undergone two previous antireflux procedures and now presents with recurrent severe substernal burning, nocturnal waterbrash, and dysphagia secondary to a recurrent paraesophageal hernia. Imaging confirms the wrap has broken down and the hernia has recurred. The patient is referred for repeat antireflux surgery.

### **Description of Procedure (43337)**

A left thoracotomy is made in the 7th interspace and extended across the costal cartilage into the abdominal musculature. The abdomen and chest are entered and the inferior pulmonary ligament is divided to mobilize the lung and expose the mediastinum. The mediastinal pleura is incised overlying the esophagus from the aortic arch down to the diaphragm. Adhesions surrounding the previously dissected esophagus are carefully taken down and the esophagus is mobilized circumferentially beginning immediately under the arch and extending down to the gastroesophageal junction. The diaphragm is incised and taken down off the chest wall circumferentially. The subdiaphragmatic adhesions, which fix the gastric body to the liver and crura and prevent reduction of the stomach into the abdomen, are then carefully dissected. A 56-French esophageal dilator is advanced into the esophagus by the anesthesiologist so that it can be used to appropriately “size” the crural repair and fundoplication. The gastroesophageal junction is reduced 3 cm into the abdomen. If this cannot be accomplished, a lengthening procedure is performed (reported separately). The posterior fundic wall is then brought posterior to the esophagus while the anterior fundus is folded over the anterior aspect of the gastroesophageal junction. The fundoplication is completed by placing three sutures to fashion a circumferential wrap of the stomach around the esophagus just above the gastroesophageal junction. Each suture encompasses a generous bite of the anterior fundic wall, the esophageal musculature, and the retroesophageal posterior fundic wall. The fundoplication is then reduced below the diaphragm into the abdomen. The hiatus is very large and of poor quality, and the surgeon decides that mesh repair of the diaphragm is required. Mesh repair and reinforcement of the diaphragmatic crura are performed. The dilator is removed, hemostasis is obtained, and the abdominal and thoracic cavities are irrigated with saline. The diaphragmatic incision is closed and the costal arch reconstructed. A chest tube is placed, the lung re-expanded, and the thoracoabdominal incision is then closed.