

# WallFlex® Stents

Technique Spotlights

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Director of Gastrointestinal Oncology,  
Harold Alfond Center for Cancer Care  
Cancer Physician Liaison for the Commission on Cancer

### **DESCRIPTION OF PRACTICE**

Dr. McGarr specializes in gastroenterology and GI oncology, with advanced training in therapeutic endoscopy, endoscopic ultrasound, fine needle aspiration, endoscopic mucosal resection, luminal stenting, the SpyGlass® Direct Visualization System, and esophageal ablative therapies.

### **EDUCATION**

University of Maine, Orono, ME

### **MEDICAL SCHOOL / GRADUATE SCHOOL**

Western University of Health Sciences, Pomona, CA

### **INTERNSHIP, RESIDENCY**

Johns Hopkins University Sinai Hospital, Baltimore, MD

### **FELLOWSHIPS**

Virginia Commonwealth University,  
Medical College of Virginia, Richmond, VA  
National Institute of Health, Virginia Commonwealth University,  
Johns Hopkins University School of Medicine, Baltimore, MD

### **CERTIFICATIONS**

Board Certified - Gastroenterology  
American Board of Gastroenterology  
Board Certified - Internal Medicine  
American Board of Internal Medicine

### **AFFILIATION**

American Medical Association, American College of  
Gastroenterology, American Gastroenterology Association



*Harold Alfond Center for Cancer Care*



## BILIARY DECOMPRESSION FOR CHOLANGIOCARCINOMA

### PATIENT HISTORY

A 50-year-old female presented with painless jaundice and elevated Liver Function Tests. Given the symptoms, the patient consented to either a plastic or metal stent prior to the ERCP.

### PROCEDURE

Deep biliary cannulation was achieved using a Dreamtome® Short Nose Sphincterotome and a .035" (0.89mm), 260cm Dreamwire® Guidewire. Contrast was injected and the proximal hepatic duct bifurcation was completely obstructed by what appeared to be a Klatskin tumor. A 5mm biliary sphincterotomy was made. An RX Cytology Brush was advanced over the wire and a brushing was conducted from the bifurcation to the orifice of the cystic duct. Pathology confirmed cholangiocarcinoma. A 10mm x 60cm WallFlex® Biliary RX Fully Covered Stent was placed from the bifurcation and proceeded trans-papillary into the duodenum. Immediate drainage was observed as the duct decompressed and bile began to flow.

### POST PROCEDURE

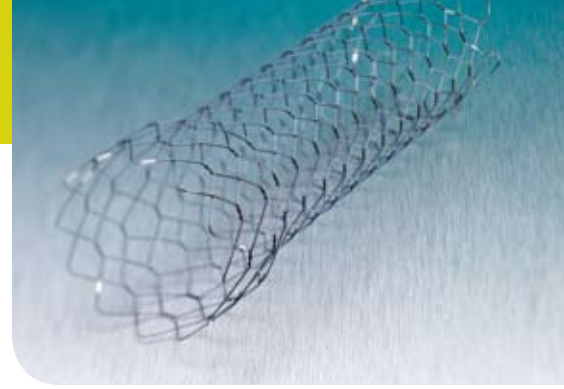
The patient did very well immediately post procedure and was discharged the same day. Total bilirubin dropped from 3.0 to 1.9mg/dl. The patient reported a noticeable decrease in itching and skin discomfort caused by jaundice. No reintervention has been required.

### DISCUSSION

The WallFlex® Biliary RX Fully Covered Stent was chosen due to the Permalume® Covering, which has been shown to reduce tissue in-growth and maintain luminal patency. In our facility, the pathologist is in the room for immediate examination of brushings or other cytological or histological examinations to allow for appropriate treatment in the procedure. For this patient, that resulted in the avoidance of a second procedure to place the appropriate prosthesis, in this case a WallFlex® Biliary RX Fully Covered Stent.



### COLONIC DECOMPRESSION AS AN ALTERNATIVE TO DIVERTING COLOSTOMY



#### PATIENT HISTORY

A 69-year-old male presented in the ED with acute bowel obstruction. A colonoscopy was performed and it was determined the obstruction was caused by a malignant neoplasm of the colon. The patient had a surgical consult and had a choice of a two stage Hartmann procedure or a colonic stent placement to decompress the bowel followed by colonic resection. It was decided to proceed with the colonic stent placement in order to reduce the number of surgeries as well as to speed up the time when the resection could take place.

#### PROCEDURE

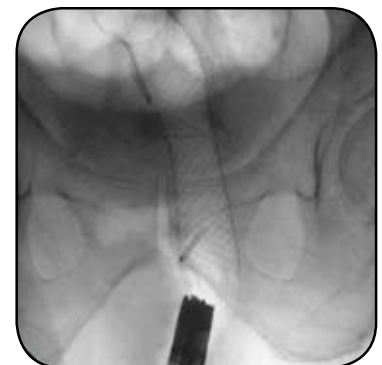
A frond-like, villous, fungating, infiltrative completely obstructing large mass was found in the recto-sigmoid colon. The mass was circumferential and measured 10cm in length. The mass was traversed using a .035 Dreamwire® Guidewire under fluoroscopic guidance. A 22mm x 120mm WallFlex® Colonic Stent was passed through the scope and traversed the stricture. The stent was deployed under both fluoroscopic and endoscopic guidance. The stent was carried to the rectal vault to avoid the anus. Immediate relief of obstruction was noted.

#### POST PROCEDURE

During the procedure, immediate decompression was seen as the stent was deployed. The patient did very well post procedure and was discharged the same day (inpatient). After further testing, it was determined that the patient had metastatic cancer and therefore was not a candidate for surgical intervention.

#### DISCUSSION

If the patient is an appropriate candidate for stenting, I always give them that option and tend to encourage that over the diverting colostomy as a preparation for colonic resection. The advantages to the patient are that they have one surgical procedure instead of two and the decompression time may be more comfortable or at least less invasive by passing stool normally instead of into a colostomy bag. Additionally, the percentage of patients who choose not to have the colostomy reversed or are no longer surgical candidates is not insignificant, therefore it makes sense to go with the option your patient would be most comfortable with in the event it becomes a long term fix rather than a preparation for surgical intervention.



### REINTERVENTION FOR DUODENAL COMPRESSION



#### PATIENT HISTORY

A 66-year-old male had an established malignant tumor of the duodenum. The patient had a previous WallFlex® Duodenal Stent placement. The tumor had overgrown the distal end resulting in gastric outlet obstruction. The patient had been unable to eat and was experiencing rapid weight loss and malnourishment.

#### PROCEDURE

A metastatic mass with extrinsic severe stenosis and intrinsic mass effect in the 2nd part of the duodenum at the distal end of the previous stent placement was seen and traversed using a 450cm Dreamwire® Guidewire. This was re-stented with a 22mm x 120mm WallFlex® Duodenal Stent under fluoroscopic and endoscopic guidance and carried from the second portion of the small bowel to the pylorus. The stent bridged the stricture with approximately 2.5cm of stent on both sides of the stricture.

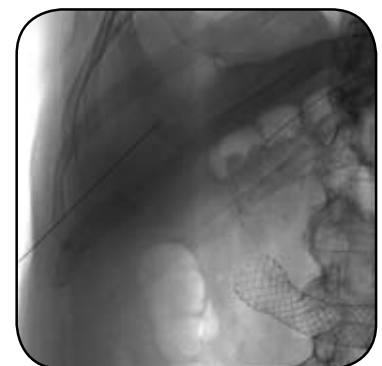
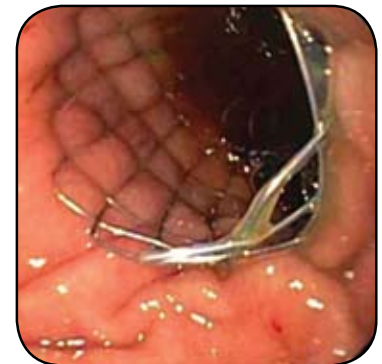
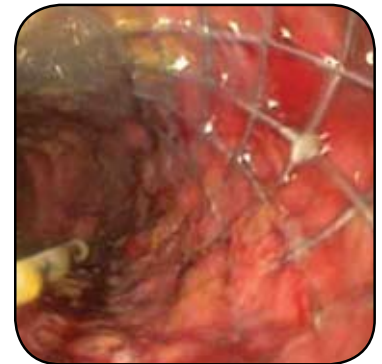
#### POST PROCEDURE

The patient recovered and went home the same day. Within 48 hours the patient was back to a soft food diet and at the 2 week follow-up the patient had gained 7 pounds and albumin levels had improved dramatically.

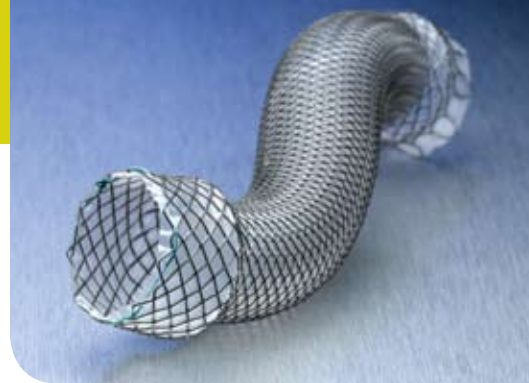
#### DISCUSSION

This was gastric outlet obstruction resulting from a malignant mass in the head of the pancreas. The advantages of stenting over surgery are that a stent is much less invasive. If the patient is not a candidate for curative surgery, i.e. a Whipple procedure, they are almost always past surgical intervention and survival of a major surgery is in question. Stenting is a less invasive way of providing duodenal patency to allow the patient to maintain a functioning small intestine. I prefer stenting to placing J-tubes, as long as the stomach and duodenum are functioning, because oral nutrition has been shown in many studies to have vast superiority over a percutaneous feeding tube. The patient's quality of life is a big factor in this decision.

There is a very large number of patients with Pancreatic CA that experience gastric outlet obstruction and can benefit from a duodenal stent.







## WALLFLEX ESOPHAGEAL FULLY COVERED STENT AS BRIDGE-TO-SURGERY

### PATIENT HISTORY

A 63-yr-old male with malignant esophageal adenocarcinoma presented with dysphagia and had heartburn for several weeks. Based on EUS and CT examination, the patient was staged T2N0M0 and therefore a potential candidate for surgical resection. I explained the potential advantages of placing a fully covered, self expanding nitinol stent over a peg tube as preparation for surgery. The advantages include the potential to increase albumin levels and prevent or even reverse further weight loss by choosing the WallFlex® Esophageal Fully Covered Stent.

### PROCEDURE

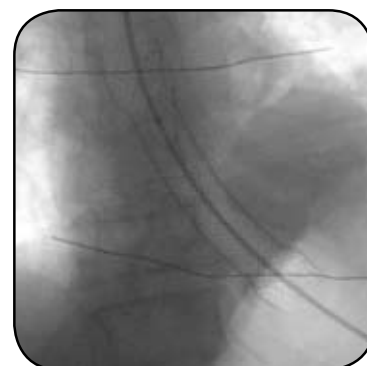
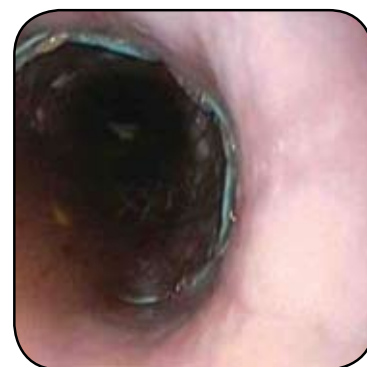
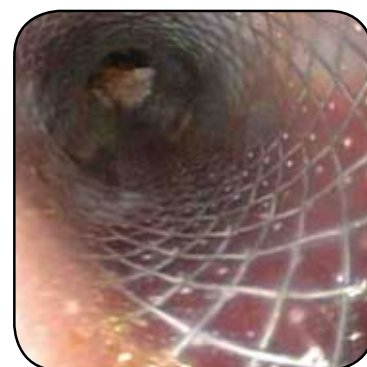
A medium-sized mass with stigmata of recent bleeding was found in the lower third of the esophagu, in the gastroesophageal junction and in the cardia. The mass was completely obstructing and circumferential. The stricture was cannulated with a 260cm Dreamwire® Guidewire and the scope was passed through the stricture and retroflexed to view the tumor extending into the cardia. A 18mm x 123mm WallFlex® Esophageal Fully Covered Stent was passed over the wire and deployed under fluoroscopic guidance. Successful stent placement was achieved without the need for dilation due to the slim, 18.5fr diameter of the delivery catheter.

### POST PROCEDURE

Clinical success was achieved as the patient was discharged same day and improved to the point of being able to take liquids and soft solids by mouth. At 3 weeks post procedure, the patient has increased albumin levels from 3.2mg/dl to 3.5mg/dl and weight loss of less than 1% of total body mass. Given the neoadjuvant therapy the patient is receiving in preparation for surgical resection, we are happy with the nutritional status to this point. The goal is for the patient to progress to surgery within the next three weeks.

### DISCUSSION

The importance of maintaining oral nutrition for patients suffering from esophageal cancer who intend to go on to surgical resection cannot be overstated. In my practice I encourage patients who may be resectable but have tumor invading their esophagus causing the inability to swallow to have a stent placed. As a patient loses the ability to swallow, their risk of aspiration increases. The WallFlex® Esophageal Fully Covered Stent has the potential to reduce weight loss, increase albumin levels and improve their quality of life.





## WALLFLEX ESOPHAGEAL FULLY COVERED STENT AS PALLIATIVE THERAPY

### PATIENT HISTORY

A 67-yr-old male with malignant esophageal adenocarcinoma presented with dysphagia and had heartburn for several weeks. Based on EUS and CT examination, the patient was determined to be a Stage IV non-surgical candidate. The patient was given the option of a peg tube or a fully covered, nitinol, self-expanding stent to allow for hydration and nutritional supplement. The patient explained to me the importance of weekly family gatherings around the supper table and what this meant to the emotional well being of both himself and his family. We chose the WallFlex® Esophageal Fully Covered Stent.

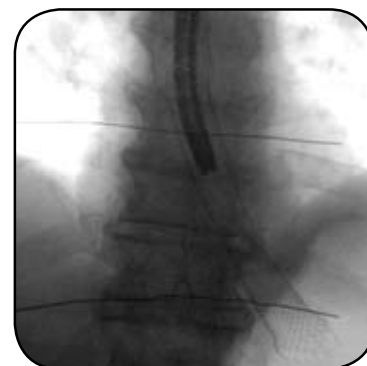
### PROCEDURE

A large, fungating mass with bleeding and stigmata of recent bleeding was found in the lower third of the esophagus. The mass was completely obstructing and circumferential. The stricture was easily identified and there was no visible lumen. The stricture was cannulated with a 260cm Dreamwire® Guidewire and the scope was passed through the stricture and retroflexed to view the tumor extending into the cardia. A 18mm x 123mm WallFlex® Esophageal Fully Covered Stent was passed over the wire and deployed under fluoroscopic guidance. Successful stent placement was achieved without the need for dilation due to the slim, 18.5fr diameter of the delivery catheter.

### DISCUSSION

The stent was deployed as planned and bridged the stricture with approximately 1.5cm of stent on both proximal and distal margins of the tumor. The distal end of the stent extended past the GE junction into the cardia.

Clinical success was achieved as the patient was discharged same day and improved to the point of being able to take liquids and soft solids by mouth. Upon follow up, the patient is enjoying the family get togethers and has expressed gratitude that he is able to share precious moments with his loved ones.



***“My ability to swallow anything, water, juice, food, was so limited that I had almost quit trying. I had lost over 30 pounds since I was told I had esophageal cancer. I did not even look like myself. Dr. McGarr has helped me to live a normal life again. I’ve had meals with my kids, my grandkids, that is priceless.”***

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