Rapid Recovery from Propofol Sedation

Virginia Mason first in U.S. to offer practice-changing technology
Virginia Mason’s Digestive Disease Institute optimizes patient care through innovations in research, education, and a multidisciplinary approach to treatment of digestive and liver diseases.

Why refer your patients to the Digestive Disease Institute at Virginia Mason?

- We treat a high volume of complex patients who may be untreatable in your area
- Multidisciplinary care includes expertise in surgery, oncology, endocrinology, interventional radiology and nutrition
- The GI Cancer Care Coordination Team provides your patient with personalized attention
- Clinical trials at Virginia Mason offer new hope to patients with no other treatment options

To refer a patient to the Digestive Disease Institute, call (206) 223-2319, or visit VirginiaMason.org/DDI.
How hard can it be to pull together a cohesive team of renowned specialists from different disciplines? That was the question 10 years ago when the Digestive Disease Institute was formed. The answer turned out to be pretty hard. We knew that by bringing together the experience of renowned specialists in GI, hepatology, surgery, oncology, interventional radiology and pathology, we could provide stellar patient care. But in those early days, fiefdoms — inadvertent or intentional — were common.

How far we’ve come.

Today, as you’ll see in this issue of Gut Instinct, our truly multidisciplinary teams are consistently making significant advancements in the areas of quality improvement, innovation, research and education. Turn the page to read about many of these activities, including:

• **INNOVATION:** Our experience with SEDASYS and why we are the first center in the country to provide computer-assisted propofol administration for colonoscopies and endoscopies.

• **QUALITY IMPROVEMENT:** The extra steps we learned to take to fight a multi-drug resistant organism traced to endoscopes.

• **EDUCATION:** How an enhanced recovery after surgery pathway is accelerating post-surgical healing in patients undergoing liver and pancreas surgery.

• **RESEARCH:** A trial of an innovative intragastric balloon designed to improve safety and minimize side effects for obese patients trying to lose weight.

Ten years ago, we shared patient stories in GI Pathology, GI Radiology, and Tumor Board conferences. Today, our multidisciplinary teams address and refine care for patients with acute and chronic pancreatitis, bariatric surgical complications, hepatomas, obesity, pancreatic cancers and numerous other digestive disorders.

We involve nursing and support staff as well as patients and their families in creating algorithms and stoplight tools to assist in patient care before admission and after patients are discharged from the hospital. We know our outcomes, share our data and research, and work collaboratively in a wide range of academic pursuits.

The results of all of this excellence are available to you and to your patients. If you have complex patients who are untreatable in your area or if you are interested in clinical trials that may offer new hope to patients with no other treatment options, consider referring to the Digestive Disease Institute. Find out more by calling (206) 223-2319, or visiting VirginiaMason.org/DDI. Or stop by and talk with us at Digestive Disease Week 2015!
In September, the Digestive Disease Institute became the first site in the United States to implement the SEDASYS system, which was approved by the FDA in 2013. SEDASYS monitors medication impact in real time — before, during and after the procedure.

SEDASYS assists the procedural team with advanced patient monitoring, recognizing early signs of over-sedation. It allows preventive measures to be taken, including the infusion being automatically reduced or stopped as needed.

With the new, computer-assisted method of delivering propofol, 99% of healthy patients undergoing colonoscopy or esophagogastroduodenoscopy at Virginia Mason recover from sedation within 10 minutes. Propofol speeds up the flow in the unit because it allows patients to rapidly recover from post-procedural grogginess and fatigue. They are still required, however, to have someone give them a ride home from the hospital.

“Basically, patients are awake by the time they get to the recovery room, which substantially reduces time to discharge,” said Dr. Otto Lin, director of Quality Improvement at the Digestive Disease Institute. “This not only improves the patient experience, but it can be practice-changing for physicians.”

In the first seven months of use, 1,800 procedures were completed with this system, and patient satisfaction scores have been extremely high.

“Patients are awake by the time they get to the recovery room, which substantially reduces time to discharge. This not only improves the patient experience, but it can be practice-changing for physicians.” – OTTO LIN, MD
Patient Mila Maksimova recently compared her latest upper endoscopy using the SEDASYS system with her prior endoscopies. “The experience was as different as night and day,” she said. “Last time, I remember being very groggy and went right home to bed. But this time, I felt just like myself after the procedure and spent my afternoon shopping and running errands with a friend. I couldn’t ask for a better experience.”

Preliminary results from a validated questionnaire given to 588 Virginia Mason patients and nine clinicians from Sept. – Nov. 2014 show that providers and patients prefer SEDASYS-delivered propofol over traditional midazolam and fentanyl sedation, on a scale of 1 to 7, where 1 = very satisfied and 7 = very dissatisfied.

Patient Satisfaction with Sedation Instrument (PSSI) and Clinician Satisfaction with Sedation Instrument (CSSI) validated surveys.

“Use of this system is a continuation of our commitment to ensuring quality outcomes and patient safety, said Dr. Lin. “At Virginia Mason, we continually strive for optimal patient experiences.”

To learn more about SEDASYS, attend Dr. Andrew Ross’s presentation:

The First U.S. Experience with Computer-Assisted Propofol Sedation
Tuesday, May 19
2015 Digestive Disease Week

Innovative Programs at the Digestive Disease Institute

New programs transform the way we care for patients with complex digestive disease:

- The Nutrition Center of Excellence has launched a group medical appointment model for patients on weight loss journeys. The model includes weekly group visits with a physician and registered dietitian and online support.
- A group of specialists in the Pancreas Cancer Multidisciplinary Clinic provide patients with timely access, prompt diagnosis and a therapeutic plan — all in one visit, at a single location.
- The Pancreas Cancer Nutrition Program offers a dedicated dietitian to patients throughout the course of their care and supports nutrition research in the context of pancreas cancer.
- The new, comprehensive Hepatitis C Clinic at the Liver Center of Excellence provides comprehensive diagnosis, evaluation and treatment for patients with all stages of chronic hepatitis C.

For information on any of these exciting programs, visit Virginiamason.org/DDI.
The challenge of cleaning duodenoscopes used for endoscopic retrograde cholangiopancreatography (ERCP) is faced worldwide. When an investigation revealed a likely connection between duodenoscopes and patients infected with drug-resistant bacteria, a new process for cleaning scopes beyond what had been recommended by the manufacturer was initiated.

Virginia Mason GI technicians culture a duodenoscope using the new process developed at the Digestive Disease Institute. King County and CDC representatives to assist with an investigation. The investigation concluded that the appropriate action had been taken to correct the problem and prevent on-going risk to the public, and that Virginia Mason had followed all recommended steps for cleaning the scopes. Despite meticulous adherence to the manufacturer’s recommended cleaning process, potentially harmful bacteria could still be identified on some duodenoscopes after disinfection.

In March 2014, the team implemented a cleaning process that exceeded all recommended manufacturer standards. In the new protocol, the scope is first processed according to manufacturer guidelines, and then cultured and held in quarantine. Cultures are assessed for growth of pathogenic organisms, which takes approximately 48 hours. If a culture is positive, the scope is re-cleaned, re-cultured and re-quarantined until cultures are negative. The additional steps created by Virginia Mason were viewed by public health as a significant improvement toward assuring patient safety.

“By changing the way we reprocess our duodenoscopes, we have significantly improved the safety of ERCP’s for our patients.” – ANDREW ROSS, MD

In 2012, Virginia Mason began submitting CRE (carbapenem resistant Enterobacteriaceae)-like isolates to the Washington State Department of Health lab as part of a statewide voluntary surveillance study. Virginia Mason was later notified that some of the samples contained a unique bacterium. It was unclear whether patients had this bacterium before coming to Virginia Mason or were exposed to it here.

Virginia Mason invited Public Health – Seattle &
director of the Therapeutic Endoscopy Center of Excellence and section head of Gastroenterology at Virginia Mason.

Virginia Mason increased its duodoscopes from eight to 28 to accommodate the culture and quarantine steps, and added staff to execute the new process. The gastroenterology team is also working with professional societies to share our experience, with the goal of improving safety for patients everywhere. New ECRI Institute guidelines were patterned after this work and can be found at ECRI.org.

For more information about Virginia Mason’s experience, please visit VirginiaMason.org/Specialized-Scopes-ERCP.

Multidisciplinary Approach to Quality Improvement in Digestive Diseases

The Digestive Disease Institute’s focus on quality improvement has drawn world-wide attention to excellent outcomes for pancreatic, bariatric, esophageal, and pancreatic cancer patients.

Multidisciplinary work groups consisting of gastroenterologists, oncologists, surgeons, interventional radiologists, endocrinologists, hospitalists, nurses, and dietitians meet regularly to spearhead quality improvement initiatives for bariatric surgery, pancreas cancer, pancreaticitis and general gastroenterology.

To learn more about on-going quality improvement initiatives, visit VirginiaMason.org/Quality Improvement.

Virginia Mason’s esophagectomy outcomes for post-operative mortality and average length of stay are significantly lower than nationally reported outcomes.

Esophagectomy: Post-Operative Mortality

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<tbody>
<tr>
<td>Virginia Mason</td>
<td>0.6%</td>
<td>0.6%</td>
<td>0.5%</td>
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<tr>
<td>Medicare</td>
<td>9.6%</td>
<td>9.5%</td>
<td>9.3%</td>
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Bariatric Surgery: Length of Stay

Bariatric surgery patients at Virginia Mason experience consistently short lengths of stay and dramatically lower BMI’s at follow-up.

Bariatric Surgery: BMI at Follow-Up

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<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>30 Days</th>
<th>6 Months</th>
<th>1 Year</th>
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<tbody>
<tr>
<td>BMI</td>
<td>47.86</td>
<td>44.24</td>
<td>38.13</td>
<td>33.70</td>
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<tr>
<td>Roux-En-Y</td>
<td>46.78</td>
<td>42.64</td>
<td>37.40</td>
<td>33.52</td>
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<tr>
<td>Sleeve Gastrctomy</td>
<td>44.24</td>
<td>38.13</td>
<td>33.70</td>
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Bariatric surgery patients at Virginia Mason experience consistently short lengths of stay and dramatically lower BMI’s at follow-up.


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<thead>
<tr>
<th></th>
<th>U.S. (SEER)</th>
<th>Virginia Mason</th>
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<tbody>
<tr>
<td>Percent Surviving 5 Years</td>
<td>15.4%</td>
<td>26.5%</td>
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</table>

5-year survival in all esophageal cancer patients treated at Virginia Mason is 72% higher when compared with survival outcomes published by the National Cancer Institute SEER program, an authoritative source for cancer occurrence and outcomes in the United States. http://seer.cancer.gov
The Digestive Disease Institute has implemented an Enhanced Recovery After Surgery (ERAS) pathway for patients undergoing liver and pancreas surgery. This multidisciplinary approach accelerates post-surgical healing by reducing complications and surgical stress.

The ERAS pathway was developed with vital input from patients, physicians, nurses and others, and incorporates pre-, intra-, and post-operative elements into a standard protocol focused on patient engagement.

Key components of the ERAS pre-operative phase include screening for malnutrition and educating patients through a program that clarifies processes and establishes goals. Key components of the post-operative phase include directed feeding and mobilization the day of surgery, optimizing fluid and analgesic regimens and avoiding NG tubes and urinary catheters whenever possible.

Carefully developed patient resources are crucial to the success of the ERAS pathway. Each patient is given a special binder that includes:

- A “Know Me” form to express their preferences and needs
- Three “Plan of Care” visual documents that illustrate what to expect on the initial visit, the day of surgery, and during hospitalization
- Patient instructions prior to surgery
- Other educational brochures and diagrams

“Giving patients these resources helps to reduce patient fear and anxiety,” said Scott Helton, MD, Director of the Liver, Pancreas and Biliary Surgical Center of Excellence. “By better educating patients, we are able to set realistic expectations for recovery and psychologically prepare them and their families for what to expect before and after surgery.”

The ERAS pathway was implemented in June 2014, and the Digestive Disease Institute has already seen an initial reduction in health care costs and length of hospital stay for liver and pancreas surgical patients. Historical evidence shows ERAS pathways associated with a reduction of overall morbidity, particularly with respect to non-surgical complications.

Development and implementation of the ERAS pathway was led by the Digestive Disease Institute’s Liver, Pancreas and Biliary Surgical Center of Excellence team, using lean principles of the Virginia Mason Production System. For more information, call Surgery Coordinator, Faye Lee, RN at (206) 341-1595.
The Pancreatic Center of Excellence’s first pancreatic cancer research fellow, Stephen Oh, MD, is pictured here with mentors Richard Kozarek, MD, Scott Helton, MD and Vincent Picozzi, MD. He is studying the impacts of positive peritoneal cytology and gastric outlet obstruction in pancreas cancer.

The ERAS visual diagram was created for patients, by patients, and is used as the plan of care for liver and pancreatic surgery patients during their hospital stay.

Post Graduate Programs at the Digestive Disease Institute

Learning and teaching are fundamental to the Digestive Disease Institute mission and multidisciplinary care teams, and our fellowship programs are a key component of that focus.

**Multiple Fellowships:** These fellowships provide exposure to the breadth of diagnoses and treatments within a multidisciplinary, high-volume practice. Six fellowships are offered in the areas of endoscopy, hepatology, pancreas cancer research, esophageal research, HPB surgery and gastroenterology.

**Visiting Scholar Program:** In 2014, Jae Myong Cha, MD, of the University of Kyung Hee School of Medicine and Hospital in Seoul, Korea, produced four manuscripts that are currently under consideration as well as the journal article,

The Pancreatic Center of Excellence’s first pancreatic cancer research fellow, Stephen Oh, MD, is pictured here with mentors Richard Kozarek, MD, Scott Helton, MD and Vincent Picozzi, MD. He is studying the impacts of positive peritoneal cytology and gastric outlet obstruction in pancreas cancer.

“Gastrointestinal Endoscopy Diagnostic Colonic Findings In Young Adults Versus 50–54 Year-Old Screening Patients: A Comparative Study Stratified by Symptom Category,” accepted by Gastrointestinal Endoscopy.

For information on fellowships at the Digestive Disease Institute, visit VirginiaMason.org/DDIFellowships.

“Gastrointestinal Endoscopy Diagnostic Colonoscopic Findings In Young Adults Versus 50–54 Year-Old Screening Patients: A Comparative Study Stratified by Symptom Category,” accepted by Gastrointestinal Endoscopy.

For information on fellowships at the Digestive Disease Institute, visit VirginiaMason.org/DDIFellowships.
A pivotal clinical trial at Virginia Mason is evaluating the effectiveness of a novel intragastric balloon system to help obese patients lose weight. The Digestive Disease Institute is one of 15 centers across the country participating in the Six-Month Adjunctive Weight Reduction Therapy (SMART) Trial using the Obalon® Balloon System.

The balloon assembly is contained in a capsule that the patient swallows along with the distal portion of an inflation catheter attached to the balloon. Once the capsule dissolves in GI fluids, the balloon is inflated and the catheter is withdrawn. The inflated balloon remains free-floating within the stomach, acting as an artificial bezoar. Within six months, the balloons are removed during an outpatient endoscopic procedure.

Participants in this clinical trial have been unable to lose weight with diet and exercise programs alone, and are not interested in bariatric surgery. Basic initial qualifications require that they:

- Be 22–64 years old
- Have a Body Mass Index (BMI) between 30–40
- Have not had a prior weight loss surgery
- Not be considering weight lost surgery
- Be able to attend regular visits at the site

“Involvement in this study could bring an important new treatment into the U.S. market and allow us to provide it to some of our patients even before it is available commercially,” said principal investigator Michael Larsen, MD.

“Involvement in this study could bring an important new treatment into the U.S. market.” — MICHAEL LARSEN, MD

In contrast, each balloon of the Obalon® Balloon System is filled with about 250 cc’s of nitrogen and has an ellipsoid shape designed to minimize the potential for pyloric obstruction. Over the course of therapy, a total of three balloons may be administered as feelings of fullness wane.

“Offering Innovative Treatments of Obesity Through Clinical Research

Intragastric balloon therapy is a well-established treatment for obesity, offering a viable alternative to pharmacotherapy and bariatric surgery. While they do create the desired feeling of fullness in patients, intragastric balloons currently on the market also cause unwanted symptoms. Filled with up to 900 cc’s of fluid, they tend to reside toward the pyloric opening, increasing the severity of cramping, nausea, and vomiting and creating the potential for slowed gastric emptying.

Supporting obese patients to a healthier state is the current focus of the Nutrition Center of Excellence, including on-going nutrition and exercise support, medical management of weight loss, and bariatric surgery.
Research at the Digestive Disease Institute

Digestive Disease Institute research focuses on identifying promising advances in the treatment of liver disease, inflammatory bowel disease, pancreatic cancer, bile duct cancer and indications treated endoscopically. Our research portfolio includes translational, medical device and pharmaceutical trials as well as non-interventional research.

Currently Enrolling Clinical Research Studies

The Digestive Disease Institute offers clinical trials for a variety of digestive conditions. To refer patients or to see a complete up-to-date list of our currently enrolling trials, call the research hotline at (206) 341-1021 or visit VirginiaMason.org/DDI-Research.

HEPATITIS C

GS-US-248-0122: A long term follow-up registry for subjects who achieve a sustained virologic response to treatment in Gilead-sponsored trials in subjects with chronic hepatitis C infection

Goal: Assess the durability of sustained virologic response (SVR) following treatment in a Gilead-sponsored hepatitis C study.

A long term follow-up registry study of subjects who did not achieve sustained virologic response in Gilead-sponsored trials in subjects with chronic hepatitis C infection

Goal: Characterize HCV viral sequences and the persistence or evolution of treatment emergent viral mutations in subjects who fail to achieve an sustained virologic response (SVR) after treatment with a Gilead oral anti-viral containing regimen in a previous Gilead-sponsored hepatitis C study.

A registry for subjects with cirrhosis who achieve a sustained virologic response following treatment with a sofosbuvir-based regimen without interferon for chronic hepatitis C infection in Gilead-sponsored trials

Goal: Assess the durability of sustained virologic response (SVR) and clinical progression or regression of liver disease including the incidence of hepatocellular carcinoma following SVR.

HCV US clinical trial protocol: Subject enrollment DxN HCV

Goal: Quantitative determination of HCV nucleic acid in plasma (K2EDTA) and serum as an aid in the management of HCV-infected individuals undergoing antiviral therapy. The assay measures HCV RNA levels at baseline and during treatment and can be used to predict sustained and non-sustained virologic response to HCV therapy.

Hepatitis C therapeutic registry and research Network-A longitudinal, observational study

Goal: Monitor treatment choices in sequentially treated patients and compare baseline characteristics of each treatment group to identify possible systematic difference between treatment populations.

HEPATITIS B

Cohort: Observational study of persons with hepatitis B virus infection in North America

Goal: Describe participants with hepatitis B virus (HBV) infection in a prospective cohort in the United States (US) and Canada and identify predictors of disease activation and progression.

Adult immune active trial: combination therapy of peg-interferon-alfa 2a and tenofovir versus tenofovir monotherapy in HBsAg-positive and HBsAg-negative chronic hepatitis B


Adult immune tolerant protocol: Combination entecavir and peginterferon alfa-2a therapy in HBeAg-positive immune tolerant adults with chronic hepatitis B

Goal: Determine the safety and efficacy of treatment with 8 weeks of entecavir followed by 40 weeks of both entecavir and peginterferon alfa-2a and evaluate “off treatment” sustained responses after treatment with entecavir and peginterferon alfa-2a in the treatment of chronic hepatitis B in HBeAg-positive adults who are in the immune tolerant phase.

INFLAMMATORY BOWEL DISEASE

A randomized evaluation of health costs and resource utilization comparing testing-based therapy to empiric dose intensification for the management of inflammatory bowel disease

Goal: Compare the health costs and resource utilization of a testing-based strategy to induce clinical response versus an empiric dose intensification strategy in the management of subjects with active Crohn’s Disease or Ulcerative Colitis with loss of response to infliximab or adalimumab.

A prospective, randomized, double-blind, placebo-controlled phase II clinical study of trichuris suis ova treatment in left-sided ulcerative colitis and its effects on mucosal immune state and microbiota

Goal: Assess the efficacy, evaluate the safety and tolerability and determine the mechanisms of action of TSO compared to placebo for the
Phase III, randomized, double-blind, placebo-controlled multicenter study to evaluate the efficacy (induction of remission) and safety of etrolizumab compared with adalimumab and placebo in patients with moderate to severe ulcerative colitis who are naïve to TNF inhibitors

**Goal:** Assess the efficacy of etrolizumab compared with placebo for induction of remission and also carry out a comparative assessment of etrolizumab and adalimumab in inducing remission as well as an assessment of the efficacy of etrolizumab in cE high patients.

A Phase III, randomized, double-blind, placebo-controlled, multicenter study to evaluate the efficacy and safety of etrolizumab as an induction and maintenance treatment for patients with moderately to severely active Crohn’s disease

**Goal:** Evaluate the efficacy of etrolizumab dose regimens compared with placebo in inducing and maintaining PRO2 remission, defined as a PRO2 score < 11 at the end of the Induction Phase (week 14) and at 1 year of maintenance treatment (week 66).

**PANCREAS CANCER**

Safety and efficacy of combination listeria/GVAX pancreas vaccine in the pancreatic cancer setting

**Goal:** Test the safety, immune response and efficacy of GVAX pancreas vaccine (with cyclophosphamide) and LKS-207 compared to chemotherapy or CRS-207 alone in adults with previously treated metastatic pancreatic adenocarcinoma.

A phase 1b/2 study of OMP-59R5 in combination with nab-paclitaxel and gemcitabine for unresectable advanced perihilar cholangiocarcinoma

**Goal:** Administer with standard medical care and safety of photodynamic therapy using porfimer sodium for injection as treatment for unresectable advanced perihilar cholangiocarcinoma

As part of a currently enrolling clinical trial offered at Virginia Mason’s Digestive Disease Institute, Ian Gan, MD, uses photodynamic therapy (PDT) to treat a patient with cholangiocarcinoma.
Digestive Disease Institute

Areas of Emphasis

**Education:** Director Ian Gan, MD, is enhancing fellowship program curricula, including our new Pancreas Cancer Research Fellowship, and hosting multiple continuing education courses. You are invited to our annual live endoscopy CME course on September 12, 2015!

**Research:** Under the direction of co-directors Michael Chiorean, MD and Flavio, Rocha, MD, our diverse portfolio of clinical trials include studies in hepatology, inflammatory bowel disease, bile duct cancer, stents and endoscopic treatment of obesity.

**Quality Improvement:** Director Otto Lin, MD, is leading a Gastroenterology Quality Committee, analyzing bariatric complication rates and physician radiation exposure, and studying outcomes related to SEDASYS technology.

**Innovation:** Led by Lily Chang, MD, the team is exploring the use of robotics in thymectomy and colorectal cases and hosting lively education forums for the public on a diverse range of digestive disease topics.

Centers of Excellence

**Bariatric Surgery Center of Excellence:** Director Jeffrey Hunter, MD, is leading a monthly multidisciplinary bariatric complication board, developing nutrition algorithms for post-bariatric patients and offering shared appointments with nutrition services.

**Esophageal Center of Excellence:** Director Donald Low, MD, is exploring a new endoscopic anti-reflux approach and hosting international groups at Virginia Mason interested in improving esophageal cancer care.

**Inflammatory Bowel Disease Center of Excellence:** Director Michael Chiorean, MD, is pursuing new clinical trials in inflammatory bowel disease and leading advocacy efforts for IBD patients locally and nationally.

**Liver Center of Excellence:** Asma Siddique, MD, offers innovative treatment at our Hepatitis C Clinic, is developing a treatment pathway for inpatients admitted with cirrhosis, and continues research on hepatitis and complex liver disease.

**Liver, Pancreas and Biliary Surgical Center of Excellence:** Scott Helton, MD, and his team are implementing ERAS for pancreas and liver surgeries and partnering with the Liver Center of Excellence to improve hepatocellular carcinoma care coordination.

**Nutrition Center of Excellence:** Director Jonathan Stoehr, MD, PhD, is focusing on treatment of obesity, including reviewing outcomes of patients prescribed medication for weight loss and implementing a group medical appointment for weight loss.

**Pancreatic Center of Excellence:** Director Vincent Picozzi, MD, is launching a robust pancreas cancer nutrition program while associate director Shayan Irani, MD, is focusing on the standardization of long-term care of chronic pancreatitis patients.

**Therapeutic Endoscopy Center of Excellence:** Director Andrew Ross, MD, is leading endoscopic research for a variety of conditions and continuing to increase patient safety related to the reprocessing of endoscopes.
Hepatopancreatobiliary (HPB) Surgery

Thoracic Surgery

General Surgery

Therapeutic Endoscopy

Bowel Disease

Pancreatic Disease
- Rocha FG, Hashimoto Y, Traverso LW, Kozarek RA, Helton WS, Picozzi VJ. Interferon-based adjuvant chemoradia-

Inflammatory Bowel Disease (IBD)

Liver Disease
The Digestive Disease Institute at Virginia Mason is a multidisciplinary coalition of providers from:

- Bariatric Surgery
- Endocrinology
- Gastroenterology and Hepatology
- General Thoracic Surgery
- Hematology/Oncology
- Hepatobiliary Surgery
- Interventional Radiology
- Pathology

**CONDITIONS WE TREAT**

- Acute Pancreatitis
- Ascites
- Autoimmune Hepatitis
- Barrett’s Esophagus
- Benign Hepatic Tumors
- Bile Duct Strictures
- Biliary Duct Disorders
- Biliary Duct Cancer
- Celiac Disease
- Chronic Pancreatitis
- Cirrhosis
- Clostridium Difficile Infection
- Colitis and Chronic Ulcerative Colitis
- Colorectal Cancer
- Colorectal Polyps
- Constipation
- Crohn’s Disease
- Cystic Fibrosis
- Esophageal and Gastric Varices
- Esophageal Cancer
- Fatty Liver Disease
- Gallstones and Bile Duct Stones
- Gastroesophageal Reflux Disease (GERD)
- Gastroparesis (Delayed Gastric Emptying)
- Hemochromatosis
- Hepatitis B, Hepatitis C and Chronic Hepatitis
- Hepatorenal Syndrome
- Inflammatory Bowel Disease (IBD)
- Irritable Bowel Syndrome (IBS)
- Intraductal Papillary Mucosal Neoplasms (IPMNs)
- Liver Cancer
- Neuroendocrine Tumors
- Nonalcoholic Steatohepatitis (NASH)
- Pancreatic Cancer
- Pancreatic Cysts
- Pancreatic Necrosis
- Primary Sclerosing Cholangitis
- Sphincter of Oddi Dysfunction
- Swallowing and Motility Disorders
- Ulcerative Colitis

Transitions in Surgical Training at Virginia Mason and Across the Nation

Gastrointestinal Surgeon Richard Thirlby, MD, has finished his 23rd year as Program Director for the Surgical Residency Program at Virginia Mason. He has served longer than any current surgical residency program director in the United States, where the average length of service is five years.

Dr. Thirlby specializes in colorectal surgery in the settings of inflammatory bowel disease, intestinal malignancies, and gastric motility disorders. When he began this role in 1992, Virginia Mason graduated three residents per year, and most entered community general surgery practice in the Northwest.

The national surgical residency landscape has changed dramatically since then: over 80 percent of graduating general surgery residents pursue fellowship training in surgical oncology, vascular, cardiothoracic or colorectal surgery. At Virginia Mason, the number of surgical graduates has doubled. About half of the graduates enter fellowship, while the other half enters community practice — not only in rural settings, but in large cities across the country.

“Thanks to the large volume and complexity of gastrointestinal surgery at the Digestive Disease Institute, our residents are capable of entering practice without additional fellowship training and provide superior care for patients with complex surgical diseases. This is an invaluable resource for hospitals across the country,” Dr. Thirlby reflects.

At Virginia Mason, only about 50 percent of surgical graduates are entering fellowship. The other half enters community practices — not only in rural settings, but in large cities across the country.

Dr. Thirlby will continue to serve Virginia Mason in his clinical and academic practice as well as his other national roles in the field of surgery. He is pleased to pass along this distinguished role to Lily Chang, MD, Director of Innovation for the Digestive Disease Institute.

Recent graduates of the program have tenured surgery faculty appointments in Pediatric Surgery (Ohio State University, Medical College of Wisconsin), Surgical Oncology (Wake Forest), Burns (Wake Forest), Trauma/Critical Care (Hawaii, NYU), Endocrine Surgery (UC Davis, Albany), and Cardiac Surgery (Pittsburgh).

Dr. Thirlby is a Senior Director of the American Board of Surgery and is currently a member of the national Residency Review Committee of the Accreditation Council for Graduate Medical Education (ACGME).