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Be Kind to Yourself

Letter FROM THE EDITOR

Bryson W. Katona is an instructor of medicine in the division of gastroenterology at the University of Pennsylvania.

Dear Colleagues,

Acute pancreatitis has long been one of the “bread and butter” conditions in gastroenterology and having up-to-date knowledge on its management will serve our community well. In this issue of *The New Gastroenterologist*, Abhishek Gulati and Georgios Papachristou (University of Pittsburgh) provide a comprehensive review of the latest advances in the treatment of acute pancreatitis and its complications, which has direct application to GI clinical practice.

With the increase of hospitalists throughout all of medicine, it is only a matter of time before this model is seen more frequently in the GI community. To address the opportunities in this changing landscape of inpatient gastroenterology, David Wan (New York Presbyterian/Weill Cornell Medical Center) provides an interesting perspective on pursuing a career as a GI hospitalist. Additionally, Laurie Keefer (Icahn School of Medicine at Mount Sinai) covers the very important topic of burnout in medicine, including how to avoid it.

Also included in this issue of *The New Gastroenterologist* is an article highlighting the importance of diversity in gastroenterology training by Sandra Quezada (University of Maryland) and an article on financial tips to ensure a secure retirement by an experienced contract and tax attorney. Additionally, Peter Liang (New

York University), Tatyana Kushner (University of California, San Francisco), and Folasade May (University of California, Los Angeles), who are all members of the AGA Institute Trainee and Early Career Committee, provide an overview of the work that this committee has done to benefit the early-career gastroenterology community and the opportunities that exist for getting involved in related AGA activities.

In prior issues of *The New Gastroenterologist*, we have typically featured a case from the “Clinical Challenges and Images in GI” section of *Gastroenterology*. However, in this issue we will instead feature a “Practical Teaching Case,” which is one of *Gastroenterology*’s newest features with a specific focus on the trainee and early-career gastroenterologist. These new cases are great didactic resources and I hope that they become a part of the regular reading of all early-career GIs.

If you enjoy the articles in *The New Gastroenterologist*, have suggestions for future issues, or are interested in contributing to future issues, please let us know! You can contact me (bryson.katona@uphs.upenn.edu) or the managing editor of *The New Gastroenterologist*, Ryan Farrell (rfarrell@gastro.org).

Sincerely,
Bryson W. Katona, MD, PhD
Editor in Chief



The NEW GASTROENTEROLOGIST

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Bryson W. Katona, MD, PhD

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ON THE COVER

Dr. Abhishek Gulati (left) of Allegheny Health Network, Pittsburgh, and Dr. Georgios I. Papachristou of the University of Pittsburgh

Photo courtesy Dr. Gulati

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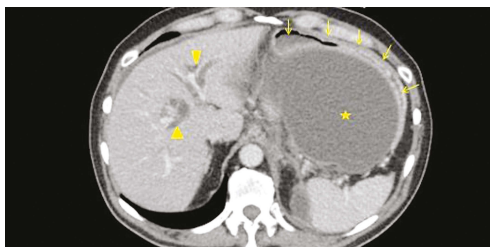
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PREVENTING BURNOUT

Be Kind to Yourself

Unraveling a Patient's Post-Op Symptoms

Published previously in Gastroenterology (2016;151:250-1)

By Andrew C. Storm, MD, and Christopher C. Thompson, MD, MSc

Dr. Storm and Dr. Thompson are in the department of medicine, division of gastroenterology, hepatology and endoscopy, Brigham and Women's Hospital, Boston. Dr. Thompson is a consultant for Olympus, Cook, and Boston Scientific.

A 45-year-old female with history of morbid obesity who had undergone Roux-en-Y gastric bypass (RYGB) 6 months ago for weight loss presents to the emergency department with acute onset chronic abdominal pain. She reports that these upper gastrointestinal symptoms have been occurring with increasing frequency over the past 2 months. Her pain is epigastric, postprandial, and without radiation. It is associated with nausea, vomiting, and early satiety. She denies fever, and reports that these intermittent obstructive symptoms occur after meals and only resolve after vomiting and regurgitation of the meal. She denies symptoms of hematemesis, constipation, odynophagia, or dysphagia. Physical examination reveals an obese woman in no acute distress. Her pulse is regular, abdomen is moderately distended with normal bowel sounds, and is nontender. Blood chemistries and CBC are normal. An upper endoscopy is performed showing post-RYGB anatomy with a normal gastric pouch. The gastrojejunal anastomosis is patent and 12 mm in diameter with unraveled suture and staple material present (Figure A). The jejunum is otherwise normal and nondilated to 60 cm beyond the anastomosis.



How should this patient be managed?

- A. Symptomatic management with antiemetics and IV fluids
- B. Endoscopic suture and staple removal
- C. Referral for laparoscopic surgical revision
- D. Upper GI series with gastrograffin
- E. Balloon dilation of the gastrojejunal anastomosis

See The Answer on page 24

News from the AGA

DDW® Registration Now Open

Registering by March 22 for Digestive Disease Week® (DDW) 2017 will save you at least \$80. Registration is complimentary up until this date for member trainees, students, and postdoctoral fellows. To see a detail of all fees, view the registration fees chart at ddw.org/ddwwwebsite/register/registration/register-registration-fees.

Why Attend DDW?

DDW, which is taking place May 6-9 in Chicago, IL, this year, DDW is the world's leading educational forum for academicians, clinicians, researchers, students, and trainees working in gastroenterology, hepatology, GI endoscopy, gastrointestinal surgery, and related fields. Whether you work in patient care, research, education, or administration, the

DDW program offers something for you.

Early-Career and Trainee Opportunities

There are a number of AGA events at DDW 2017 that offer additional opportunities for early-career GIs. These include the Board Review Course, which includes content from Digestive Disease Self-Education Program (DDSEP® 8), the Career and Professional Related Issues session, and the GI-Fellow Directed Quality Improvement project presentation.

Additionally, the AGA Postgraduate Course offers practitioners at all stages of their careers information about the latest GI advances and pathways for optimal care. To sign up, visit pgcourse.gastro.org.

For more information regarding why you should attend, what's included in registration, the DDW 2017 host city and more, visit www.ddw.org.

AGA Regional Practice Skills Workshops: Prepare for the Next Chapter in Your Career

AGA is holding free, 1-day regional workshops for GI fellows and early-career GIs in early 2017. During these practice skills workshops, which will be held throughout the U.S. and are open to members and nonmembers, senior and junior GI leaders will guide you through the various practice options and address topics rarely discussed during fellowship.

Topics include employment models, partnerships, hospital politics, billing and coding, compliance, contracts, health care reform and MACRA, and

more. These provide a great opportunity to develop an effective action plan for achieving your career goals and to ensure you're on track for success.

Find a future AGA Regional Practice Skills workshop near you and mark your calendars today.

- North Carolina – Friday, Feb. 10, 2017, Pinehurst Resort, Pinehurst, N.C.
- California – Saturday, Feb. 11, 2017, Stanford University, Stanford, CA.
- Texas – Saturday, Feb. 25, 2017, Baylor College of Medicine, Houston, TX.

For registration-related questions, contact AGA Member Relations by emailing member@gastro.org. For program-related questions, contact Carol Brown by emailing cbrown@gastro.org.

To register, visit www.gastro.org/education and filter by the series, "practice skills workshops." While you're there, make sure to check out on-demand presentations from the early 2016 workshops as well. ■





Mojji1980/THINKSTOCK

Junior Investigators are Top Priority For Gastroenterology Editors

In a recent video interview, Richard Peek Jr., MD, AGAF, Editor in Chief, and Douglas Corley, MD, PhD, Deputy Editor in Chief, of *Gastroenterology* explained how trainees and young GIs fit into their plans for the journal. Good news: this constituency is among the editors' top priorities.

The editors have plans to implement a year-long editorial fellowship later in their term, which will allow an individual to get hands-on experience in the editorial process.

The editors also appreciate the fresh take young investigators have on research. To encourage continued high-quality submissions from young investigators, the editors will waive page fees for select original research articles where young investigators are the corresponding authors.

The editors also plan to develop new features within *Gastroenterology's* Mentor, Education and Training Corner that will be of interest to trainees and early career GIs.

Watch the full video interview on AGA's YouTube Channel: <https://www.youtube.com/user/AmerGastroAssn>.

The discussion on young investigators begins at minute 5:24. ■

Save the Date: 2017 AGA Postgraduate Course

The 2017 AGA Postgraduate Course will take place Saturday, May 6 and Sunday, May 7, 2017, in Chicago, IL. It will be held in conjunction with Digestive Disease Week® (DDW) 2017 (www.ddw.org).

Step beyond basic learning and get the full scope of GI advances during this multitopic course. In just 1.5-days, world-renowned leaders will test your knowledge in real-time and provide a pathway for optimal care that will guide your clinical decisions all year long.

Compared to other GI postgraduate courses, AGA's is the most cost-effective. All six general sessions, plus your choice of one luncheon breakout session and one case-based breakout session, are included in the price.

For the latest information on the course, stop by www.gastro.org. ■

AGA Outlook

For more information about upcoming events and award deadlines, please visit <http://www.gastro.org/education> and <http://www.gastro.org/research-funding>.

Upcoming Events

Feb. 10; Feb. 11; Feb. 25, 2017

Practice Skills Workshops

Get helpful insight from senior and junior GIs on employment models, contracts, and health care reform. Pinehurst, NC (2/10); Stanford, CA (2/11); Houston, TX (2/25)

Feb. 19-22, 2017

Gastroenterology Updates in IBD and Liver Disease (GUILD) 2017

GUILD 2017 teaches GIs ongoing education and insights to improve patient care and overall health care outcomes. Maui, HI

Mar. 3-4, 2017

10th Penn Inflammatory Bowel Disease Symposium

The 10th Penn Inflammatory Bowel Disease Symposium will highlight the advances in diagnosis and treatment of IBD. Philadelphia, PA

April 5-7, 2017

1st Annual HITEC: Hopkins International Therapeutic Endoscopy Course

An intense 2 1/2 day course dedicated to providing the practicing endoscopist state-of-the-art updates in diagnostic and therapeutic luminal endoscopy and pancreaticobiliary endoscopy. Baltimore, MD

April 12-14, 2017

2017 AGA Tech Summit

Join leaders in the physician, investor, regulatory, and medtech communities as they examine the issues surrounding the development and delivery of new GI medical technologies. Boston, MA

April 14, 2017

"Shark Tank" at the 2017 AGA Tech Summit

Apply for the "Shark Tank" for a chance to showcase your novel idea/invention at the 2017 AGA Tech Summit. Visit <http://www.gastro.org/in-person/shark-tank-at-the-2017-aga-tech-summit> for full details. Boston, MA

May 6-9, 2017

Digestive Disease Week (DDW)[®] 2017

DDW is the premier meeting for the GI professional. Every year it attracts approximately 15,000 physicians, researchers and academics from around the world who desire to stay up-to-date in the field. Chicago, IL

Sep. 9-10, 2017

2017 James W. Freston Conference: Extracellular Vesicles – Biology, Translation, and Clinical Application in GI Disorders

Examine the latest research on vesicle biogenesis and secretion and its relevance to GI diseases and clinical applications. St. Paul, MN

Awards Application Deadlines

AGA-GRG Fellow Abstract Prize

These awards were created to encourage trainees to become more involved in digestive disease research.

Deadline: Feb. 24, 2017

AGA-Moti L. & Kamla Rustgi International Travel Awards

This award provides \$750 to young basic, translational, or clinical investigators residing outside North America to support their travel and related expenses to attend DDW.

Deadline: Feb. 24, 2017

AGA Student Abstract Prize

Travel awards will be given to high school, undergraduate, graduate, and medical students who have submitted abstracts chosen by the AGA to be presented during DDW.

Deadline: Feb. 24, 2017

The AGA Institute Trainee and Early Career Committee — Shaping the Young GI Experience

By Peter S. Liang, MD, MPH, Tatyana Kushner, MD, MSCE, and Folasade P. May, MD, PhD



Dr. Liang is an instructor in the division of gastroenterology, New York University School of Medicine, New York, and an attending physician in the VA New York Harbor Healthcare System, New York. Dr. Kushner is a transplant hepatology fellow in the division of gastroenterology, University of California, San Francisco. Dr. May is assistant professor in the division of digestive diseases, David Geffen School of Medicine, University of California, Los Angeles, and an attending physician in the department of gastroenterology in the VA Greater Los Angeles Healthcare System, Los Angeles.

AGA's focus on young GIs

The AGA Institute Trainee and Early Career Committee (formerly Trainee and Young GI Committee) is composed of 12 trainee and early-career AGA members and meets twice a year to develop programs and events specifically targeted to trainees and gastroenterologists (GIs) in their first 5 years out of fellowship training. The committee was formed by the AGA in February 2013 to address the specific needs of early-career GI professionals and to develop programs to expose younger members to all that the AGA has to offer. The new committee also became a creative space to organize efforts to increase membership among early-career GIs.

Trainee and Early Career Committee members are selected for 2-year terms and represent fellowship training programs, universities, and practices from around the nation. Each committee member serves simultaneously on

one other AGA committee, which gives young GIs additional opportunities for leadership roles. The committee meets regularly with AGA staff and a governing board liaison to discuss committee goals and the issues most relevant to physicians during and directly after GI fellowship training. The committee also provides feedback to other committees about how programs and initiatives might involve or impact GI fellows and recent graduates. The result is a unique focus group where young GIs from all over the country work collectively to improve the young GI experience through flagship programs like the Regional Practice Skills Workshop, the Young Delegates Program, and Trainee and Early Career events at Digestive Disease Week (DDW)®.

AGA Regional Practice Skills Workshops

In a 2013 AGA survey of GI fellows, trainees expressed a strong desire to

have more preparation and training for the transition from fellowship to practice. Consequently, the Trainee and Early Career Committee partnered with the Practice Management and Economics Committee as well as the Education and Training Committee to develop a free half-day workshop to educate fellows and early-career GIs about practice and employment models, contracts and negotiations, compliance, and more. The AGA launched pilot Regional Practice Skills Workshops in three cities in the 2014-2015 cycle, and received extremely positive feedback from participants. In 2015-2016, the program was expanded to five cities and feedback from the 130 participants was overwhelmingly encouraging. In 2016-2017, we held workshops in New York City, Houston, San Francisco, and Pinehurst, North Carolina. We were excited to partner with the New York Society of Gastrointestinal Endoscopy and the North Car-

olina Society of Gastroenterology to hold workshops in those two locations.

The workshop agenda is similar across locations and includes sessions on career options in research and clinical practice, how to evaluate a job, contract negotiation, health care reform, financial planning, and work-life balance. The program is geared toward second- and third-year fellows, recent fellowship graduates, and those considering a job or career change.

Each committee member serves simultaneously on one other AGA committee, which gives young GIs additional opportunities for leadership roles.

All workshops include catered meals and are free to both AGA members and non-members. Those interested in attending one of the workshops can find more information at <http://www.gastro.org/trainees>. The Trainee and Early Career committee is also looking to expand to additional cities in future years so that more trainees and early-career GIs can participate in these workshops.

The AGA Young Delegates program

Interest in becoming involved in the AGA is on the rise among young GIs. In response, our committee launched the AGA Young Delegates program in 2015 to provide a mechanism for young GIs to engage with the AGA in a more flexible way. The objective of the program is to foster microvolunteerism, which allows individuals the chance to participate in short, project-based assignments with

flexible deadlines. All projects are offered and conducted online, eliminating the need to travel to in-person meetings as formal committee memberships require. The AGA maintains a database of Young Delegates and attempts to offer each delegate projects that fit their expressed interests. In the last year, we have enrolled 70 Young Delegates – many of whom attended a successful meet and greet event at DDW – and have offered 20 volunteer opportunities. The list of opportunities is constantly growing and has included beta testing DDSEP 8® questions, serving as abstract reviewers for fellow DDW sessions, participating in the AGA microbiome project, and helping with the Regional Practice Skills workshops.

The AGA highly values the efforts of our Young Delegates, and the Trainee and Early Career Committee considers them a talent pool from which we can elicit input, select committee members, and find future leaders. More importantly, we hope that the program allows young AGA members to increasingly engage with the AGA to refresh, improve, and strengthen the society. To become a Young Delegate, please visit www.gastro.org/youngdelegates to provide us with your information.

Trainee and early-career GIs at DDW

The Trainee and Early Career Committee sponsors several events at DDW to bring together fellows and early-career GIs from all over the country. Each year, our committee hosts a DDW Trainee and Early Career symposium to provide practical advice for early-career GIs from all practice settings. Our DDW 2016 symposium was entitled “Surviving The First Years in Clinical Practice – Roundtable with the Experts,” and featured prominent leaders who shared career perspectives with attendees through formal presentations and more casual discussion. Attendees gained insider tips on how to design and run a fiscally prosperous practice, coding and documentation, and building and maintaining a clinical practice referral base from expert

AGA leaders. We are now in the process of planning the DDW 2017 Trainee and Early Career symposium that will focus on “The Road to Leadership in GI.”

There are also several informal networking events at DDW to encourage community building among young GIs. DDW 2016 premiered the Trainee and Early Career GI Lounge, which provided a physical space in the San Diego Convention Center for trainees and early-career GIs to meet and have refreshments between sessions. The AGA also offered free professional headshots, a great perk for individuals beginning their professional careers. The Trainee and Early Career GI Networking Event is the highlight social event at DDW for many who look forward to seeing friends and colleagues from all over the nation and meeting other young GIs over appetizers and drinks. In San Diego, we reached maximum capacity for our House of Blues event, and plans are already underway for our Chicago networking event.

Come join us!

The success of the AGA depends on the 16,000 members who volunteer their time for committees, councils, and the governing board. Since its inception, the Trainee and Early Career Committee has allowed young GIs to have a role in the AGA as well as benefit from all of the resources that the AGA has to offer in leadership training, networking, and career preparation. In the past 3 years, participation of young GIs in the Trainee and Early Career Committee events has been on the rise, which we hope is a reflection of our efforts to address the educational needs of early GIs and the transition from fellowship to practice. We would love to see more fellows and early-career GIs involved! For more information about the Trainee and Early Career committee, becoming a committee member, and our programs, please visit <http://www.gastro.org/trainees>. If you have any ideas that you think the committee should consider, please let us know at trainees@gastro.org. ■

Ten Financial Tips for a Worry-Free Retirement

By David J. Schiller, Esq.



Mr. Schiller is a physician contract and tax attorney and has practiced in Norristown, PA., for the past 30 years. He can be contacted at 610-277-5900 or www.schillerlawassociates.com or David@SchillerLawAssociates.com.

As a contract and tax attorney for physicians for over 30 years, I have reviewed many asset summaries of late-career physicians. Although most have historically strong annual incomes of \$200,000-\$400,000, accumulated wealth varies tremendously. Some physicians in their 60s have a home, a small retirement plan, and little else. Others have cash equivalents of \$5,000,000 or more, no debt, real estate, and other assets. In my experience, this variance usually does not relate primarily to income differences but rather spending control and financial knowledge. If you are interested in having the opportunity to retire and not worry about finding an “early bird” special at your favorite restaurant, this article provides 10 tips to help you achieve that dream.

1. Fund a Roth IRA. Immediately start funding a Roth IRA. The current limit is \$5,500 per calendar year. The principal and interest will grow tax-free (not tax-deferred) over decades.

At your retirement age, you will have \$500,000 tax-free (invested at historic rates of growth).

2. Contribute to an employer retirement plan. Contribute to your employer’s Roth 401-K or regular 401-K. Add money starting the first day you are eligible at the rate of at least 5% of your compensation. By age 35, contribute no less than 10% of your compensation up to the legal maximum. In a Roth 401-K, you will have decades of tax-free accumulation. You may also enjoy the employer matching contribution, which varies from job to job. Do not take loans on 401-K plans. If you borrow and then terminate employment before completing repayment, the borrowed funds are treated as a plan distribution, subjecting them to taxation and possibly a penalty if you are under age 59.5. If switching jobs, move your 401-K retirement plan account into an IRA; do not cash it out. If necessary, you usually can withdraw funds to make a down payment on a home or for an emergency, but plan contributions should

be viewed as “tomorrow” money. You can borrow to purchase a home and to finance your children’s educations but you cannot borrow to retire.

3. Be debt-free. It is easier to accumulate wealth if you are debt-free. Mortgages, student loans, and car payments should be minimized and eliminated as quickly as possible so that available net income is used to invest both through retirement plans and on an after-tax basis. Cars should be purchased, not leased as the “tax benefit” of leasing is a myth. Leasing a car is an expensive way of borrowing money, as you are effectively purchasing only the most expensive depreciating years of the car’s useful life (the initial few years). You should also not have credit card debt at any time as credit card debt means you are spending money before you earn it. Borrowing for clothing or a vacation reflects the inability to control one’s spending.

4. Use tax-advantaged investment vehicles. Interest income on your investments is taxed at ordinary income rates, perhaps 30% or more,

but dividends issued from stock or stock mutual funds are taxed at lower long-term capital gains rates. Similarly, when you sell a stock or a stock mutual fund, the appreciation is taxed at long-term capital gains rates under most circumstances. As you are able to set funds aside, make sure that you are using tax-advantaged investment vehicles.

5. Consider no-load mutual funds. When investing in the stock market or otherwise, consider no-load mutual funds such as those offered by Vanguard that do not require an “investment adviser.” Such funds do not have sales charges and save you money. The greatest chance you have of underperforming the market relates to the expenses associated with investment, more so than the particular investments selected. Since almost all advisers underperform the

each of your children, would you rather pay astronomical tuition bills for 4-8 years of college or 16-20 years counting grades 1-12 in private school? When you have children approaching school age, choose an A+ school district and send your kids to public school, not private school – they will still get into competitive colleges. This can save hundreds of thousands of dollars per child.

8. Fund a 529 plan. Whether or not you currently have children, you can fund a 529 plan to enjoy tax-free growth and plan for education expenses of children or future children. If you do not have children yet, you can name yourself or a different party as the beneficiary and then change it after children are born. If you do not have children, you can either use the 529 for someone else or cash the investment

In my experience, the variance in accumulated wealth between doctors approaching retirement usually does not relate primarily to income differences but rather to spending control and financial knowledge.

market, you should consider investing on your own, minimizing costs, and watching your funds grow. As a younger physician with many high-income years in front of you, a good portion of your investments should be in equities to enjoy their appreciation over decades. With bank interest rates being minuscule, there is no reasonable alternative.

6. Develop a budget. If you or your spouse has an issue with shopping or overspending, it is imperative that you develop a budget: first allocating funds to long-term savings such as a retirement plan, next to short-term savings, then to unavoidable recurring costs such as rent or mortgage, student loans, food, and discretionary expenditures. The perfect time to put this in place is when you go from the salary of a resident or fellow into a full-time job and your pay increases by multifold. Read the book *The Millionaire Next Door: The Surprising Secrets of America's Wealthy* by Thomas J. Stanley and gain control, as it is easy to do otherwise with an unprecedented and significant salary jump. If you start to live on your new salary, you will never be in a position to amass wealth and retire comfortably.

7. Send your kids to public, not private, school. For

and recover the money including growth/loss thereon. Trying to fund college educations out of current income is difficult, and it is better to prefund than to pay back student loans over many years.

9. Draft a will. If you are married or have children or both, it is imperative that you have wills drafted so that your wishes are implemented upon your passing. Many tax advantages are available without using complicated trusts and it is important that you maintain up-to-date wills should the unforeseen occur.

10. Purchase disability and life insurance. Your most valuable financial asset is your income stream over the coming years. Protect it with adequate private disability and life insurance policies. Policies provided by your employer typically end upon termination of employment and having a portable policy is important.

These tips will help you maximize your financial position over your work life and through retirement. The best time to get on the right track is yesterday; the second best time is today. Staying in shape financially is easier than messing up and then attempting to fix it. ■



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May 6-9, 2017

Exhibit Dates: May 7-9

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Jan. 11, 2017

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Jan. 18, 2017

General registration opens.



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Update on the Management of Acute Pancreatitis and Its Complications

By Abhishek Gulati, MD, and Georgios I. Papachristou, MD, PhD



Dr. Gulati is a gastroenterology and hepatology fellow at Allegheny Health Network, Pittsburgh, and Dr. Papachristou is professor of medicine, University of Pittsburgh School of Medicine, Pittsburgh.

Historical perspective

The term “pancreas” derives its name from the Greek words pan (all) and kreas (flesh). Understanding pancreas physiology was first attempted in the 17th century by Regnier de Graaf.¹ Giovanni Morgagni is credited with the first description of the syndrome of acute pancreatitis in 1761.² Reginald Huber Fitz proposed the first classification of acute pancreatitis into hemorrhagic, gangrenous, and suppurative types in 1889.³ The distinction of acute from chronic pancreatitis was not well described until the middle of the 20th century when Mandred W. Comfort gave a detailed account of chronic relapsing pancreatitis in 1946.⁴

Acute pancreatitis is one of the most common gastrointestinal disorders requiring hospitalization, accounting for roughly 270,000 admissions annually in the United States, which translates into a \$2.6 billion annual health care expenditure.

Diagnosis and classification of severity

The diagnosis of acute pancreatitis is based on the presence of two of the three following criteria: typical abdominal pain (severe, upper abdominal pain frequently radiating to the back), serum amylase and/or lipase levels greater than three times the upper limit of normal, and/or characteristic imaging findings.

The original 1992 Atlanta classification provided the first blueprint to standardize how severity of acute pancreatitis was defined.⁵ Over the years, better understanding of acute pancreatitis pathophysiology and its complications led to a greater focus on local and systemic determinants of severity⁶ and eventually the Revised Atlanta Classification (RAC) in 2013 (Table 1).

Management of acute pancreatitis Prevention

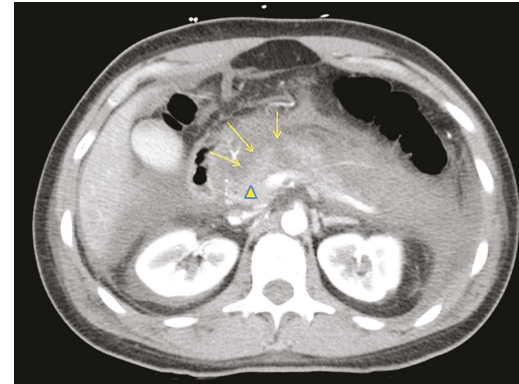
As with any disorder, management starts with prevention. Primary prevention of acute pancreatitis has been well studied only in patients undergoing endoscopic retrograde cholangiopancreatography (ERCP). Post-ERCP pancreatitis (PEP) is the most common and arguably the most dreaded complication of ERCP with a reported incidence of approximately 10%.⁷ Several medications and endoscopic interventions have been assessed for the prevention of PEP. Of these, placement of prophylactic pancreatic duct stents^{8,9} and administration of rectal nonsteroidal anti-inflammatory drugs, especially indomethacin, have shown significant benefit in reducing risk for PEP.^{10,11} It is unclear at this point whether rectal indomethacin alone (without pancreatic duct stenting) is sufficient in patients at high risk for PEP. The SVI (Stent vs. Indomethacin) trial,¹² an ongoing multicenter randomized controlled trial, aims to answer this specific question.

Determination of etiology

The most common causes of acute pancreatitis are gallstones and alcohol, accounting for more than two-thirds of all cases.¹³ Other etiologies include hypertriglyceridemia, ERCP, drugs, family/heredity, and post-trauma. Initial work up includes a thorough history to quantify alcohol consumption and assess for recently started medications, measurement of liver injury tests¹⁴ and triglyceride levels, and performance of a transabdominal ultrasound to evaluate for biliary dilation, cholelithiasis, and choledocholithiasis.¹⁵

Assessment of disease severity

A plethora of scoring systems have been developed to predict acute pancreatitis severity and outcomes at presentation and/or within the first 24 hours. These include Ran-



COURTESY DR. A. GULATI

Figure 1

Pancreatic necrosis with acute necrotic collection: arrowhead indicates viable enhancing pancreas; arrows indicate non-enhancing ischemic tissue.

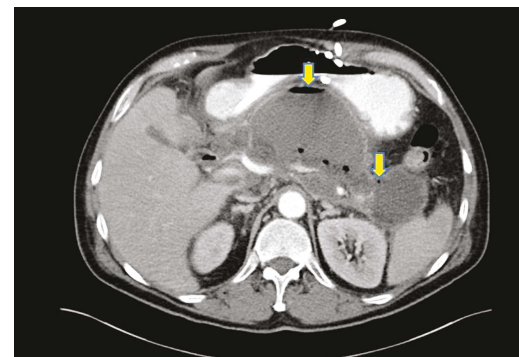


Figure 2

Infected pancreatic necrosis: Solid arrows indicate air within the peripancreatic collection.

son's criteria described in 1974, APACHE-II (Acute Physiology and Chronic Health Evaluation II), and BISAP (Bedside Index of Severity in Acute Pancreatitis) scores. They all have similar, but only modest, accuracy.^{16,17} Experts recommend¹⁸ that the Systemic Inflammatory Response Syndrome (SIRS) may be the most useful score in daily clinical practice, given that all of its four parameters are readily available (temperature, heart rate, respiratory rate, and white blood cell count) and the score is easy to calculate. Recent studies suggest that admission hematocrit and rise in blood urea nitrogen (BUN) at 24 hours are as accurate as more complex scoring systems in predicting severe disease.¹⁹

Fluid resuscitation

Despite extensive research and trials using medications such as ulinastatin, octreotide, pentoxifylline, gabexate, *N*-acetyl cysteine, steroids, IL-10, and antibiotics²⁰, no pharmacologic agent has been shown to significantly alter the clinical course/outcomes of acute pancreatitis.

Adequate intravenous hydration remains the cornerstone of early management in acute pancreatitis.²¹ Studies have demonstrated that increased intestinal permeability, secondary to reduced intestinal capillary microcirculation, leads to bacterial translocation and development of SIRS.²² Intestinal microcirculation does not become as readily impaired, and there is a certain "latency" to its onset, from the insult that triggers pancreatitis. This gives rise to the concept of a "golden window" of 12-24 hours from the insult to potentially reverse such changes and prevent organ dysfunction. It has been shown that patients who are adequately resuscitated with intravenous fluids have lower risk for local and systemic complications.²³

What remains debatable are the amount and type of fluid administered. Lactated Ringers (LR) is likely the optimal solution, based on a small prospective randomized controlled study showing that administration of LR reduced SIRS, compared with saline.²⁴ Endpoints to guide adequacy of fluid resuscitation in the first 24-48 hours include measurement of urine output (at least 0.5 mL/kg per hour),²⁵ and decrease in hematocrit²⁶ and BUN levels.²⁷

Selecting level of care and ICU management

Patients with predicted severe acute pancreatitis or those with persistent SIRS despite initial fluid resuscitation should be managed in a closely monitored unit, ideally an ICU. Patients with impending respiratory failure require mechanical ventilation, renal failure complicated by metabolic acidosis and/or hyperkalemia requires hemodialysis, and cardiovascular shock requires the initiation of vasopressors and continuous monitoring of blood pressure via an arterial line. A special entity that requires ICU level care is hypertriglyceridemia (HTG)-induced severe acute pancreatitis. HTG should be considered as the etiology of acute pancreatitis in certain clinical scenarios:²⁸ previous history of HTG, poorly controlled diabetes mellitus, history of significant alcohol use, third trimester of pregnancy, and use of certain medications associated with HTG such as oral estrogens, tamoxifen, and propofol. Levels of triglyceride greater than 1,000 mg/dL strongly point toward HTG being the etiology.

Plasmapheresis, which filters and removes triglycerides from plasma, has been reported as an efficient treatment in such patients based on case series.^{29,30} At this time its use may only be justified in patients

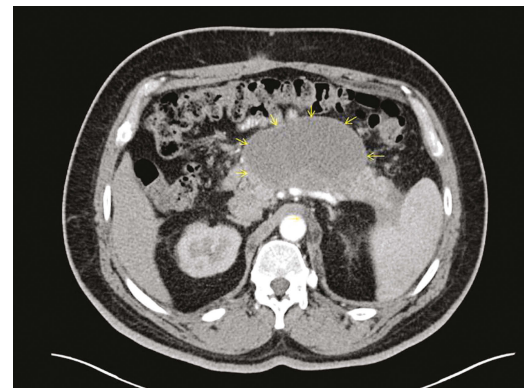


Figure 3

Walled-off necrosis: Arrows indicate mature capsule with heterogeneous densities within the collection.

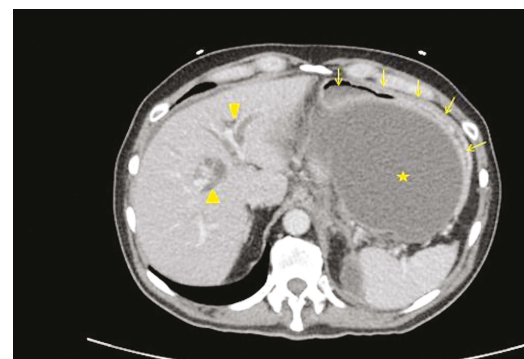


Figure 4

Large pancreatic fluid collection (star) causing gastric compression (stomach outline marked with arrows) and biliary obstruction (arrowheads).

with predicted severe acute pancreatitis from HTG, preferably within the first 24 hours of presentation.

Urgent ERCP

Urgent ERCP (within 24-48 hours of admission) in patients with biliary acute pancreatitis is indicated³¹ when there is strong clinical suspicion for concomitant cholangitis and/or evidence of ongoing biliary obstruction (secondary to choledocholithiasis) on imaging. Currently, predicted severe acute pancreatitis of biliary etiology does not constitute an indication of urgent ERCP in the absence of the above parameters.³²

has not been clearly answered with a recent randomized trial showing nasogastric feeds not to be inferior to nasojejunal feeds.³⁵ In regard to the timing of initiation of enteral nutrition, early nasoenteric feeding within 24 hours from presentation was found not to be superior, compared with on-demand feeding in patients with predicted severe acute pancreatitis.³⁶

Strategies to decrease risk of recurrent attacks

The etiology of acute pancreatitis can be determined in the majority of patients. In many instances, recurrence can be prevented, e.g.,

attack of alcoholic etiology, counseling focusing on alcohol cessation has been shown to reduce risk of recurrences.⁴⁰ Similarly, appropriate plans to treat and follow up underlying metabolic etiologies (hypercalcemia and hypertriglyceridemia) should be preferably instituted prior to the patients' discharge.

Management of peripancreatic fluid collections

Patients with acute pancreatitis frequently develop peripancreatic fluid collections (PFCs). Based on the revised Atlanta classification, those are categorized into four types (see

The majority of acute peripancreatic fluid collections in patients without evidence of pancreatic necrosis regress within a few weeks, and thus intervention is not indicated early in the disease course. Delaying intervention gives more time for recovery from systemic complications and allows the encapsulating wall and contents to organize further.

Nutrition

Recovery of the gut function is often delayed for several days or weeks in patients with severe acute pancreatitis. Studies have shown that prolonged fasting in such circumstances leads to malnutrition and worse prognosis.^{33,34} Enteral nutrition via a nasogastric or nasojejunal tube is the preferred route of nutritional support, as it is associated with lower risk of infection, multiorgan failure, and mortality, when compared with total parenteral nutrition.³³

The question of whether nasojejunal feeding offers any additional advantages over nasogastric feeding

in biliary or alcoholic etiologies. In patients with mild biliary acute pancreatitis, evidence supports³⁷ the performance of cholecystectomy during the index admission. In cases of severe biliary acute pancreatitis complicated by pancreatic necrosis and/or peripancreatic fluid collections, cholecystectomy should be delayed for a few weeks until the collections regress or mature.³⁸ In poor surgical candidates, ERCP with biliary sphincterotomy offers an alternative, but less effective, means of reducing the risk of recurrent attacks in patients with biliary acute pancreatitis.³⁹ In subjects with first acute pancreatitis

Table 2 and Figures 1-4).

The majority of acute PFCs in patients without evidence of pancreatic necrosis regress within a few weeks and thus intervention is not indicated early in the disease course. Current literature supports delaying the drainage/debridement of such collections for several weeks. The mortality from interventions decreases as the time to intervention from onset of symptoms increases.⁴¹ Delaying intervention gives more time for recovery from systemic complications and allows the encapsulating wall and contents to organize further.

It is only the mature PFCs, which

**Table
1**

Revised Atlanta Classification
<i>Mild Acute Pancreatitis</i>
Absence of organ failure AND Absence of local complications
<i>Moderately Severe Acute Pancreatitis</i>
Local complications AND/OR Transient organ failure (< 48 hours)
<i>Severe Acute Pancreatitis</i>
Persistent organ failure (> 48 hours)

are symptomatic and result in abdominal pain, nausea, early satiety, gastric outlet obstruction, failure to thrive, and/or biliary obstruction, that need to be drained/debrided.⁴² Minimally invasive approaches have been shown to result in better outcomes, when compared with open laparotomy. Minimally invasive approaches include placement of percutaneous drainage catheters by interventional radiology (retroperitoneal approach preferred when feasible), endoscopic drainage/debridement, laparoscopy, and retroperitoneal necrosectomy following a step-up approach.⁴³

While surgery is still an option for patients with symptomatic mature PFCs, endoscopic ultrasound-guided drainage in expert hands has been shown to be cost effective, with shorter hospital stay and even decreased risk of cyst recurrence, compared with surgical cyst-gastrostomy creation.⁴⁴ Ultrasound or computed tomography-guided drainage of such collections with a percutaneous catheter is an equally efficacious option, when compared with the endoscopic approach. However, patients undergoing endotherapy require fewer procedures and imaging studies

and shorter length of stay⁴⁵ when compared with radiological interventions.

Management of pancreatic necrosis

Although this topic has generated much debate, the majority of available evidence shows no clinical benefit from using prophylactic antibiotics to prevent infection in pancreatic necrosis.⁴⁶

Infectious complications are the major cause of late mortality in acute pancreatitis. The predominant source is bacterial translocation from the GI tract.^{47,48} Infected pancreatic necrosis should be suspected in patients with imaging evidence of pancreatic or extrapancreatic necrosis, who have a sudden deterioration in clinical status, typically 2-3 weeks after onset of symptoms or if gas bubbles are seen within a necrotic collection (Figure 2). When infected pancreatic necrosis is suspected or established, antibiotics such as carbapenems, fluoroquinolones, metronidazole, and cephalosporin should be started, which have better penetrance into ischemic pancreatic tissue.

CT-guided aspiration has lost much of its utility, since there has been a paradigm shift to delaying drainage of infected (suspected or established) pancreatic necrosis. A negative or positive CT aspirate does not dictate timing of intervention and is recommended only if a fungal or drug-resistant infection is suspected.¹⁵ As mentioned above, when debridement of an infected necroma is contemplated, the two guiding principles are to delay intervention and use minimally invasive approaches.

Vascular complications

Vascular complications such as splanchnic vein thrombosis can occur in up to a quarter of acute pancreatitis patients.⁴⁹ Anticoagulation is not usually indicated unless thrombosis is extensive and causes bowel ischemia. Arterial pseudoaneurysms are rare but life-threatening complications of acute pancreatitis. They typically require interventional radiology guided coil embolization to prevent massive bleeding.⁵⁰

Abdominal compartment syndrome

Abdominal compartment syndrome

**Table
2**

Peripancreatic Fluid Collections	
<i>Acute peripancreatic fluid collection</i>	<i>Homogenous peripancreatic fluid associated with interstitial pancreatitis, without an encapsulating definable wall.</i>
<i>Acute necrotic collection</i>	<i>An intra or extra-pancreatic collection, in the setting of necrotizing pancreatitis, which is heterogeneous in appearance with liquid and non-liquid densities, without a definable wall.</i>
<i>Pancreatic pseudocyst</i>	<i>Encapsulated collection of fluid in a well-defined wall, with a homogenous fluid density and minimal or no necrosis.</i>
<i>Walled-off necrosis</i>	<i>Mature encapsulated collection with heterogeneous liquid and non-liquid densities.</i>

is an end result of third spacing of fluid into the abdominal cavity secondary to inflammation and fluid resuscitation in severe pancreatitis. Abdominal pressure in patients can be monitored by measuring bladder pressures. Intra-abdominal hypertension is defined as a sustained pressure greater than 12 mm Hg, while abdominal compartment syndrome is defined as sustained intra-abdominal pressure greater than 20 mm Hg with new organ failure.⁵¹ Intra-abdominal hypertension (IAH) is present in up to 75% of patients with severe acute pancreatitis. While all conservative measures to prevent development or worsening of IAH should be implemented (adequate sedation, decompression of bowel in patients with ileus, etc.), current guidelines do not recommend aggressive interventions to treat it. On the other hand, abdominal compartment syndrome is a life-threatening complication that requires urgent intervention, such as percutaneous drain placement or surgical fasciotomy, to decrease intra-abdominal pressure.^{52,53}

Conclusion

The key principles in the management of acute pancreatitis are aggressive hydration and preventing development of end-organ failure. In the last 2 decades, there has been a paradigm shift in the guidelines for management of peripancreatic fluid collections and pancreatic necrosis. When feasible, drainage/debridement of these collections should be delayed and be performed using minimally invasive interventions. There is still an urgent need for developing and testing disease-specific treatments targeting control of the inflammatory response in the early phase of acute pancreatitis and prevention of development of severe disease with end-organ dysfunction. ■

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Postfellowship Pathways: Tales from a GI Hospitalist

By David W. Wan, MD



Dr. Wan is assistant professor of medicine, associate program director, GI Fellowship Program, New York Presbyterian/Weill Cornell Medical Center, New York, N.Y.

What is a GI hospitalist?

A GI hospitalist is a gastroenterologist who primarily provides inpatient care. Their main professional focus is the acute management of gastrointestinal conditions occurring in the hospital setting.

How prevalent are subspecialty hospitalists?

The rise of hospitalists has changed the landscape of medicine. The hospitalist is now the central inpatient provider responsible for patient care and day-to-day housestaff education. From 1995 to 2016, the number of hospitalists increased from 500 to over 50,000.¹ While the majority of hospitalists are generalists from the fields of internal medicine, pediatrics, and obstetrics/gynecology, some come in the form of specialists. In a recent survey, up to 10% of internal medicine subspecialists already consider themselves “hospitalists.”² However, most of these self-described hospitalists do so only part of the time. For example, many group practices have one of their members

manage all the hospitalized patients for the group for certain periods of time. It is rare to find full-time subspecialist hospitalists, but there has been an emergence in this new model of GI practice. Many people are unaware of this system of care and do not understand how it may influence hospital-based care.

What is the role of a GI hospitalist?

As for every physician, an individual’s responsibilities vary widely. It depends on a host of factors. Your role depends on the size of the team and hospital that you are responsible for. You may be part of a large group multispecialty practice or a GI physician group, or you may work for a tertiary academic center as I do. As such, your team may consist of nurse practitioners, physician assistants, GI fellows, or your partners. Some GI practices alternate different members to cover the group’s hospitalized patients for fixed periods of time. On the other hand, some GI practices or divisions hire dedicated full-time GI hospitalists.

While my primary responsibility is to care for inpatients who require GI consults, I have outpatient and administrative responsibilities. Generally speaking, I am the de facto consult attending for the year.

How did you decide to become a GI hospitalist?

Upon graduation from my GI fellowship, I wanted an academic job where I could work closely with fellows and manage a wide breadth of complex, high-acuity patients. During fellowship, I enjoyed all areas of gastroenterology and hepatology and did not “sub-specialize.” As such, I wanted a job where I would see the full spectrum of GI and liver disease. Additionally, I enjoyed seeing the sickest patients, because I felt I could make the most dramatic differences with my care.

When I was searching for jobs, I spoke with the chief of GI at the hospital where I completed my residency about how I could fill a niche. We conceived of a model that would merge my personal interests and help the

division provide consistent teaching for fellows and increase inpatient billing. Prior to my arrival, attendings who staffed the consult service were expected to continue their research and outpatient clinical workload while finding time to come to the hospital. Not surprisingly, attending rounds was erratic. The fellows were left to manage patients independently, scrambled to run cases by whomever happened to be around, or waited until they could reach the attending the next day. Unsurprisingly, billing by attendings was sparse.

What is a typical day like in your life as a GI hospitalist?

My day starts at 7:30 a.m. with my outpatient office hours, endoscopy session, or GI Grand Rounds. Each week, I have two morning outpatient office sessions, one morning endoscopy session, and one morning session supervising fellows' endoscopy.

At noon, I round with a team of GI fellows, medical students, and house staff rotators for 2 hours. After we see the new consults, the remainder of my afternoon is spent seeing the follow-up patients. For two afternoons throughout the week, I have outpatient endoscopy sessions. I typically conclude my day at 5 p.m.

For night coverage, I take emergency calls for my own patients, and share general call duties with the other members of my division. On average, I take calls for 1 weekday a month and 5 weekends per year.

Typically, GI hospitalists cover inpatients only during the daytime. All nights and weekends are covered by partners and nonemergent overnight consults are saved until the next day. They have no office work.

What is the most challenging part of being a GI hospitalist?

As the perpetual "GI Consult Attending," there is the threat of burnout when confronted with a high volume of sick, complex patients. Many of



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the patients have multiple comorbidities and require a multidisciplinary approach. On average, we have five new consults a day, and the number of active follow-up patients is 10. Nonetheless, the nature of the inpatient service makes the volume of work unpredictable. When the service is busy and the census swells, the numbers of patients requiring staffing and notes can become overwhelming.

While there is diversity in the types of consults, one repeatedly confronts common problems such as GI bleeding, food impactions, unexplained abdominal pain, diarrhea, dysphagia, nausea and vomiting, iron-deficiency anemia, abnormal liver tests, and PEG placements. Seeing the same consults over and over again can get tiresome. Fortunately, in a teaching hospital, this repetition is somewhat mitigated when one's audience consists of new crops of enthusiastic medical students, rotating housestaff, and fellows.

Importantly, for those without an outpatient practice, one loses the opportunity to develop longitudinal relationships with patients. Additionally, one also loses the ability to provide integrated, comprehensive care for individual patients once they leave the hospital.

How are you paid?

My compensation is based on a base salary with an incentivized system based on my RVUs and collections. For the dedicated hospitalist for a group practice, there is typically a base salary and productivity-based income. Additionally, there should be a path to partnership. Lastly, in balancing the ledger, the diminished inpatient revenue stream is offset by the lack of overhead.

What are the benefits of a GI hospitalist system?

Our system benefits the workflow for the GI fellows. Since I have started, the GI consultation rounds start at a

consistent time. During these rounds, we discuss relevant GI literature and make timely plans for all patients. Oftentimes, I am able to supervise the fellows so they can fit in a scope before the end of the workday. Ultimately, the

the physician's time. Physicians can either focus on outpatients or inpatients without worrying about going between the office, the ambulatory surgical center, and the hospital. In general, inpatients require a dispro-

portionate amount of time relative to the revenue collected. Furthermore, the need for group physicians to go to the hospital eliminated, they can carve out 1-2 hours of office time to increase billing.

patient gets discharged, the primary gastroenterologist will not be fully aware of the inpatient course. Also, when outpatient and inpatient gastroenterologists become segregated based on hospital setting,

The GI hospitalist position creates a great opportunity for gastroenterologists to make a remarkable, immediate impact on interesting, high-acuity patients. The nature of the job also has the advantage of providing reasonable hours.

fellows know they can find me and discuss patients throughout the day. The fellows consistently have told me that since the implementation of the hospitalist system, there has been a dramatic difference. Collectively, they feel both their education and patient care have improved.

In terms of consult efficiency, one study demonstrated that the transition to a GI hospitalist system resulted in a mean decrease in consult to urgent esophagogastroduodenoscopy (EGD) time from approximately 24 to 14 hours.³ However, this occurred in the context of a lower inpatient consult volume and covered only 2 months. Furthermore, the time from admission to EGD did not change. Nonetheless, further studies are needed to examine the impact of this model shift.

In terms of a financial benefit, at our institution the total gross inpatient charges increased more than \$850,000 for the year. This was largely attributable to the 79% increase in the gross charges from follow-up notes.

For group practices, the hospitalist system makes more efficient use of

When there is one point-person who handles all inpatient GI, communication is facilitated among primary teams and other services. The GI hospitalist develops working relationships with surgeons, radiologists, anesthesiologists, intensivists, etc. Teams can often just text or call me directly, instead of looking for the covering attending or going through the office phone service.

portionate amount of time relative to the revenue collected. Furthermore, the need for group physicians to go to the hospital eliminated, they can carve out 1-2 hours of office time to increase billing.

What are drawbacks to the GI hospitalist model?

Since there is only one gastroenterologist in the hospitalist model, if that person is not doing a good job, it affects the management of GI conditions for the entire hospital.

There is a loss of continuity of care. When GI patients get admitted, the gastroenterologist responsible for their care will not be the person with whom they have a long-term relationship. Furthermore, when the

they each lose out of learning the intricacies of managing patients in a different context.

What do you like most about being a GI hospitalist?

The GI hospitalist position creates a great opportunity for gastroenterologists to make a remarkable, immediate impact on interesting, high-acuity patients. The nature of the job also has the advantage of providing reasonable hours. This may be attractive to many who want a better work-life balance. ■

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Diversity in GI Training: A Timely Goal

By Sandra M. Quezada, MD, MS



Dr. Quezada is assistant dean for admissions, assistant professor of medicine, division of gastroenterology and hepatology, University of Maryland School of Medicine, Baltimore, and a member of the AGA Institute Diversity Committee.

On behalf of the AGA Institute Diversity Committee: Rotonya M. Carr, MD (chair, AGA Diversity Committee; assistant professor of medicine, division of gastroenterology, University of Pennsylvania, Philadelphia), Karen A. Chachu, MD, PhD (assistant professor of medicine, Duke University, Durham, N.C.), Elizabeth Coss, MD (clinical assistant professor, University of Texas Health Science Center at San Antonio), Maria Cruz-Correa, MD PhD (associate professor of medicine, biochemistry and surgery, University of Puerto Rico Comprehensive Cancer Center), Lukejohn Day, MD (associate clinical professor, University of California, San Francisco), Darrell M. Gray II, MD, MPH (assistant professor of medicine, The Ohio State University Wexner Medical Center), Esi Lamouse-Smith, MD, PhD (assistant professor of pediatrics, Columbia University, New York), Antonio Mendoza Ladd, MD (assistant professor, Texas Tech University Health Sciences Center, El Paso), and Celena NuQuay (AGA staff liaison).

There is no denying that practicing medicine calls us to serve a population that is diverse in many aspects. We live and work in a world that is evolving so quickly that medical workforce demographics fail to keep pace. In the United States in particular, racial and ethnic diversity has already exceeded many previous forecasts and will likely continue to do so.

According to current U.S. Census Bureau estimates, by 2020, 50.2% of newborn children will be of non-white race, and by the year 2044, the nonwhite population will comprise 50.3% of all Americans, meaning “minority” and “majority” terminology will no longer apply¹ (Figure 1). Despite this rapid growth of the minority sector, corresponding trends in the practicing physician population have not yet

emerged. Gastroenterology is no exception. Today, women represent 47% of U.S. medical students; however only 16% of GI fellows are women² (Figure 2). In 2007, only 3.2% of GI fellows were African American, and 8.5% were Hispanic, despite representing approximately 13.3% and 17.6% of the U.S. population, respectively.³ Of course, medical specialty selection is a two-way street on which the hopes and visions of applicants converge with those of fellowship training programs. Could we do a better job of inspiring women and minority applicants to pursue gastroenterology?

Underrepresented minority (URM) medical school graduates tend to select primary care career pathways over specialty training,⁴ and women graduates are more likely to select fields with high proportions of female physicians such as pediatrics,

obstetrics, and gynecology.² As a result, GI fellowship programs may have a small pool of women and minority candidates from which to choose. In addition, recruitment of URM medical graduates to gastroenterology is particularly challenging, given the 15-year flat rate of URM medical school matriculation.³ In the case of African American men, it has not only failed to increase but actually declined in recent years, suggesting progress is not just slow but moving in the wrong direction. When considering these data, we must wonder if we’re simply observing a longer than anticipated lag and hope that, in time, there will be improved representation across medical schools, residencies, and fellowship training programs.

The AGA recognizes that broader representation in the GI workforce requires increasing diversity at the

trainee level and values this change for reasons beyond diversity for diversity's sake. Based on education research, improving diversity at the trainee level helps learners thrive through the sharing of varied perspectives and enhancement of complex, critical thinking.⁵ Moreover, diverse learning environments promote a culture of tolerance and understanding, tools needed to prepare trainees for future patient interactions. Diversity also translates into better patient satisfaction, as several studies have shown that physician-patient concordance on race, ethnicity, and gender result in higher patient satisfaction scores.⁶ Additionally, minority physicians are more likely to practice in underserved areas and to conduct research addressing health care dis-

parities, an area that will require an even greater investment as the U.S. population demographic continues to evolve.^{3,7}

mittee, whose current charge is to further the strategic plan by meeting the needs of underrepresented members (which includes the spec-

Based on education research, improving diversity at the trainee level helps learners thrive through the sharing of varied perspectives and enhancement of complex, critical thinking.

The AGA committed to changing the face of GI 25 years ago when it formed a dedicated diversity com-

mittee, whose current charge is to further the strategic plan by meeting the needs of underrepresented members (which includes the spec-

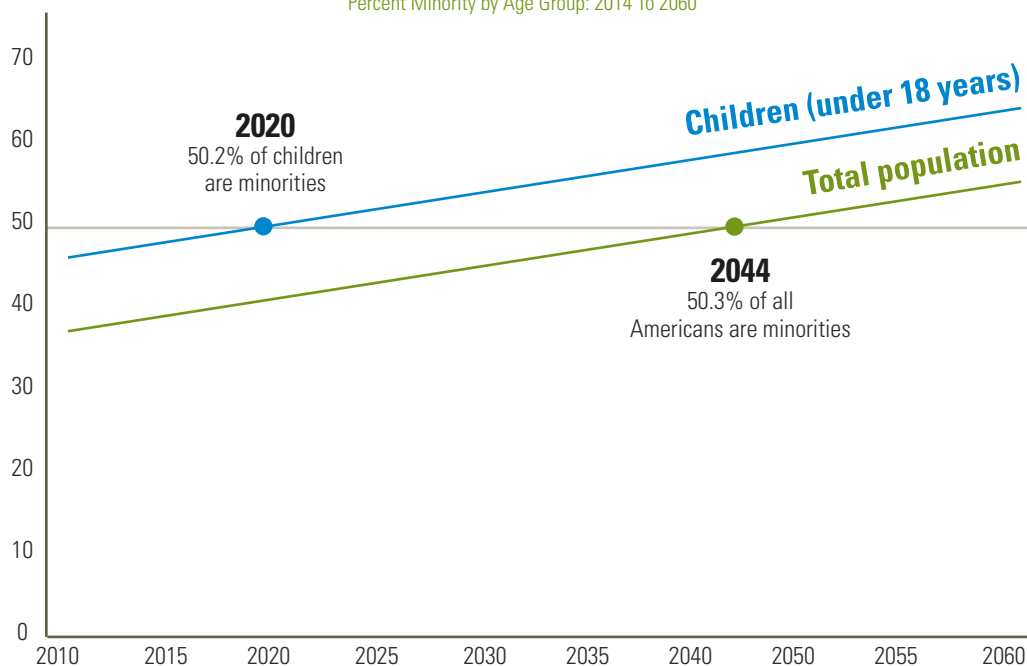
**Figure
1**

US CENSUS POPULATION PROJECTIONS 2014-2060¹

PROJECTING MAJORITY-MINORITY

Non-Hispanic Whites May No Longer Comprise Over 50% of the U.S. Population by 2044

Percent Minority by Age Group: 2014 To 2060



Note: Minority is defined in this figure as any group other than non-Hispanic whites.

fosters and promotes involvement, advancement, and recognition of underrepresented diverse constituents; and through policy recommendations and programs, supports AGA members' ability to address barriers to access and utilization of health care services among diverse patient populations, with attention to linguistic, racial, cultural, religious, sexual preference, age, and economic diversity. As a proud current member of the AGA Institute's Diversity Committee, I would like to share the recently developed AGA Diversity Policy, the first of its kind for the organization:

The AGA is committed to diversity, which is an inclusive concept that encompasses race, ethnicity, national origin, religion, gender, age, sexual orientation, and disability. We strive to cultivate diversity within the organization at all levels, including governance, committee structure, staffing, and program and policy development. We are committed to the following goals intended to reflect the interests of the diverse patient population we serve:

1. Promotion of diversity within the practice of gastroenterology and in the individual care of patients of all backgrounds.

2. Recruitment and retention of GI providers and researchers from diverse backgrounds and the support of the advancement of their careers.

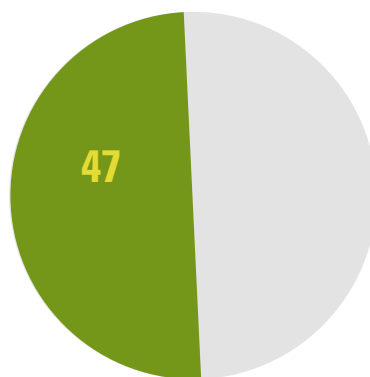
3. Elimination of disparities in GI diseases through community engagement, research, and advocacy.

With input from the AGA Institute Diversity Committee, the AGA has spearheaded several initiatives to increase racial and ethnic diversity at the trainee level. One such initiative is the Investing in the Future Program, which engages URM college and medical students in GI health careers and research. To date, this program has reached over 2,300 students, and several of these participants have

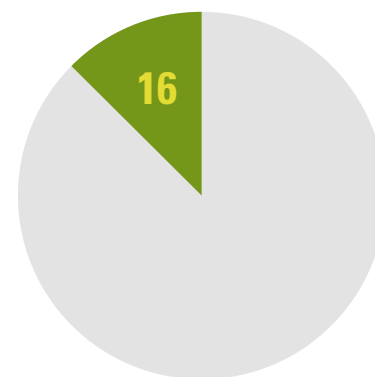
**Figure
2**

PERCENTAGE OF US WOMEN MEDICAL STUDENTS COMPARED TO GI FELLOWS IN 2015

% Women - medical students



% Women - GI fellows



chosen GI because of exposure and mentorship. In addition, a dedicated workgroup within the AGA Institute Diversity Committee will work with trainee members to propose a long-term strategy to AGA leadership to promote GI workforce diversity.

Gastroenterology has been the most competitive fellowship specialty for the past 4 consecutive years, above pediatric surgery and cardiology.⁸ We are privileged to practice an exciting, fascinating specialty that demands diversity of skill, acuity of care, and knowledge of pathophysiology. Increased diversity among those who research, teach, and practice in this wonderful field will only enhance it, and being mindful of this goal in our recruitment and retention efforts will help us achieve it.

For more information on the AGA Institute Diversity Committee and its ongoing initiatives, please visit <http://www.gastro.org/about/people/committees/diversity-committee>. Additionally, any specific enquiries should be addressed to Taylor Monson (tmonson@gastro.org). ■

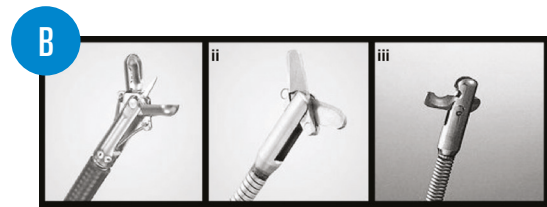
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The Answer

The correct answer is B: endoscopic suture removal. As the prevalence of bariatric surgery increases to address the obesity epidemic, endoscopists are increasingly called upon to evaluate postbariatric patients.¹ In one case series of patients undergoing EGD for upper GI symptoms post-RYGB, normal postsurgical anatomy was found in 31.6%, anastomotic stricture in 52.6%, marginal ulcer in 15.8%, unraveled suture material causing functional obstruction in 4%, and gastro-gastric fistula in 2.6% of cases.² Another series reported unraveled suture material thought to be contributing to upper GI symptoms in up to 10% of cases.³ Suture material is found by a mean of 34 weeks after RYGB, and presenting symptoms include abdominal pain in 65%, nausea 52%, dysphagia 22%, and melena in 13%. Unraveled suture material may be associated with marginal ulceration, or may cause obstruction as it presents a mechanical obstruction to foodstuff as it passes through the gastrojejunal anastomosis. A series of 29 therapeutic endoscopic suture removal cases reported resolution or improvement of symptoms in 83% of patients and no complications or anastomotic leaks.³

Tools available for suture removal are diverse (Figure B) and should be selected based on the appearance of the unraveled suture material. First, when possible the suture material should be untangled to allow for examination of the number and location of sutures involved, as well to evaluate the underlying mucosa for defects or ulceration. In the best case, more sutures may be removed if a grasping tool like a biopsy forcep is used to grip the suture where it emanates from the mucosa, then the scope is driven onto this area and the tool is firmly and quickly pulled back into the biopsy channel to break the suture. Other techniques include use of endoscopic scissors and loop



cutters to trim and remove the suture material, though loop cutters may jam on braided or silk suture and are generally reserved for cutting monofilament.

While symptomatic management with antiemetics and analgesics (answer A) is important in managing this patient, it will not lead to definitive management of her underlying condition. The patient may require laparoscopic surgical revision (answer C) if her symptoms persist after endoscopic suture removal, but it is premature to recommend this. An upper GI series (answer D) would be helpful in diagnosing a gastro-gastric fistula in this patient population, but the endoscopic evaluation suggests suture material leading to food bolus impaction and gut irritation is the cause of her symptoms. Finally, while the patient's symptoms of intermittent obstruction raise concerns for gastrojejunal stenosis, the endoscopic exam showed a normal-caliber stoma. Thus, stomal dilation (answer E) is incorrect. ■

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Snapshots from the AGA Journals

Relatives of IBD Patients Have Intestinal Dysbiosis

November *Cellular and Molecular Gastroenterology and Hepatology* (doi: 10.1016/j.jcmgh.2016.06.004)

Key clinical point: Healthy first-degree relatives of patients with remitted inflammatory bowel disease can have intestinal dysbiosis and an altered intestinal metabolome that may signify subclinical inflammation or a “pre-IBD” state.

Major finding: Nineteen of 21 families had at least one member whose microbial taxonomy and metabolome correlated with IBD.

Data source: A cross-sectional study of 21 pediatric and adolescent probands with IBD, nine parents and six siblings with IBD, and 54 healthy first-degree relatives.

Disclosures: The research was supported by the Helmsley Charitable Trust, the Crohn’s and Colitis Foundation of America, the Fineberg Foundation, the United States Public Health Service, the National Institutes of Health, the Cedars-Sinai F. Widjaja Foundation Inflammatory Bowel and Immunobiology Research Institute, the European Union, and the Joshua L. and Lisa Z. Greer Chair in Inflammatory Bowel Disease Genetics. The investigators had no conflicts of interest.

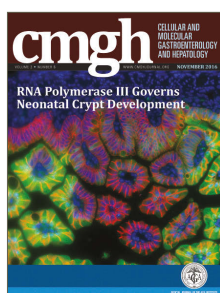
Commentary



Mark R. Frey, PhD, is assistant professor of pediatrics and biochemistry & molecular medicine at the Saban Research Institute at Children’s Hospital Los Angeles, University of Southern California, Los Angeles. He has no conflicts of interest to disclose.

Numerous studies have established an association between intestinal dysbiosis and inflammatory bowel disease, and data from mouse models of colitis show that IBD-associated microbiota can exacerbate ongoing inflammation. Still, it is not clear that dysbiosis is either necessary or sufficient to trigger IBD – it could be that the microbiome must first be shaped by an inflammatory state on the host’s side before it can achieve a pathogenic signature and contribute to disease. New findings reported here speak to this question by demonstrating the presence of an IBD-like intestinal microbiome signature in a high-risk population, healthy first-

degree relatives of IBD patients. The observation of dysbiosis in at-risk but asymptomatic individuals is an important step toward understanding the sequence of disease onset, raising the provocative possibility that, at least in some cases, dysbiosis is a predisease state, and could potentially be an instigator. The key next step will be longitudinal studies testing the predictive power of these findings. If healthy relatives with the IBD-associated microbiome signatures proceed to develop disease at an increased rate versus relatives with normal gut flora, these signatures would have potential clinical utility either as a screening and risk-assessment tool, or possibly as a target for preventative treatment. ■



Duodenal Bulb Sampling Barely Upped Celiac Diagnoses

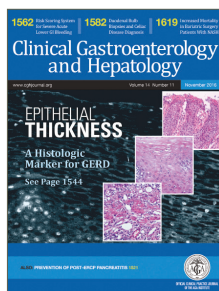
November *Clinical Gastroenterology and Hepatology* (doi: 10.1016/j.cgh.2016.02.026)

Key clinical point: Separate sampling of the duodenal bulb increased detection of celiac disease by only 0.1% when endoscopy patients had a low pretest probability of celiac disease.

Major finding: One (0.1%) patient had celiac disease limited to the duodenal bulb.

Data source: A multicenter retrospective study of 679 patients without celiac disease or positive serology from whom duodenal bulb and small bowel biopsies were collected during endoscopy.

Disclosures: An American College of Gastroenterology Junior Faculty Development Award helped support the work. Senior author Joseph A. Murray, MD, disclosed ties to Alba Therapeutics, Alvine Pharmaceuticals, AMAG Pharmaceuticals, and several other corporate entities. The remaining authors had no disclosures.



Commentary



Ciaran P. Kelly, MD, AGAF, professor of medicine, Harvard Medical School, and director, Celiac Center, Beth Israel Deaconess Medical Center, Boston, has acted as a scientific adviser to companies including Celimmune, Cour Pharmaceuticals, ImmunogenX, and Takeda; he also acts as principal investigator on a research grant on celiac disease supported by Aptalis.

Histologic diagnosis of celiac disease has traditionally relied upon endoscopic biopsies from the second and third portions of the duodenum. However, several recent studies indicate that duodenal bulb biopsies may show changes of celiac disease, despite normal histology in the more distal duodenum. In their study, Dr. Stoven and her colleagues evaluated the diagnostic utility of endoscopic duodenal bulb biopsy in patients with a low probability for celiac disease. A new diagnosis of celiac disease was made in 16 of their 679 patients (2.4%). Only one patient showed villous atrophy of the duodenal bulb with normal histology of the more distal duodenum. Although a diagnosis of celiac disease was made, the case was atypical not only because distal duodenal biopsies were normal

but also because multiple celiac serology tests were negative, raising the possibility of nonceliac villous atrophy. Thus, the added diagnostic yield of duodenal bulb biopsies in this low-risk population was extremely low (0.15% at most). The extra biopsy will incur additional cost unless it is combined in the same sample container as the distal biopsies. However, combining the biopsies may pose diagnostic challenges for general, nonspecialized, pathologists. Incidental abnormalities, such as peptic duodenitis, are very common in the duodenal bulb; 35% of bulb samples were abnormal in this study. This can be a source of erroneous diagnoses to offset the very small increase in true diagnoses. Thus, for patients at low risk for celiac disease, extra pinches from the bulb may not improve the diagnostic recipe. ■

PPI and H₂RA Equal for Low-Dose Aspirin Gastroprotection

January 2017 *Gastroenterology* (doi: 10.1053/j.gastro.2016.09.006)

Key clinical point: Among patients on low-dose aspirin at risk for recurrent GI bleeding, there were slightly fewer GI bleeds or ulcers when patients were on the proton-pump inhibitor rabeprazole (Aciphex) instead of the H₂-receptor antagonist famotidine (Pepcid).

Major finding: During the 12-month study period, upper GI bleeding recurred in one patient receiving rabeprazole (0.7%) and four receiving famotidine (3.1%; $P = .16$). The composite endpoint of recurrent bleeding or endoscopic ulcers at month 12 was reached by nine patients in the rabeprazole group (7.9%) and 13 receiving famotidine (12.4%; $P = .26$).

Data source: A 270-subject, double-blind, randomized trial in Hong Kong and Japan.

Disclosures: The Research Grant Council of Hong Kong funded the work. The lead investigator has served as a consultant to Pfizer, Eisai, Takeda, and Otsuka, and has received research grants from Pfizer and lecture fees from Pfizer, AstraZeneca, and Takeda. Several other authors reported similar industry disclosures.

Commentary



Nimish Vakil, MD, AGAF, is clinical professor of medicine at the University of Wisconsin–Madison. He has consulted for Ironwood and AstraZeneca.

Aspirin is widely used for primary and secondary prophylaxis of cardiovascular disease. Dr. Chan and colleagues present a randomized, controlled trial comparing rabeprazole to famotidine in preventing recurrent GI hemorrhage and endoscopic ulcers in low-dose (less than 325 mg) aspirin users. The authors conclude that no statistical difference was found between the two agents. The study contrasts with another study from Hong Kong, which found that proton pump inhibitors were more effective.

There are several aspects of this study that need consideration. The authors used a composite endpoint and patients with GI bleeding or ulcers demonstrated at endoscopy to have had an “event.” This design increases the event rate and reduces the sample

size needed for the trial. In reality, most clinicians (and patients) are not concerned about nonbleeding ulcers, which have the ability to heal on their own. In this trial, most of the endoscopic ulcers were 5 mm or smaller in diameter. If we look solely at the endpoint of GI hemorrhage, the cumulative incidence of upper GI bleeding during the 12-month study was 0.7% (95% confidence interval, 0.1%-5.1% in the rabeprazole group and 3.1%, 95% CI, 1.2%-8.1% in the famotidine group). A larger study with bleeding as an endpoint remains an important unmet need and may reach a different conclusion.

The authors are to be complimented on this important addition to the literature but the reader should not conclude that H₂-receptor antagonists and proton pump inhibitors are equivalent in preventing recurrent bleeding from aspirin-induced ulcers. ■



Be Kind to Yourself: Preventing Burnout in New GIs Through Self-Compassion

By Laurie Keefer, PhD, AGAF



Dr. Keefer is director, psychobehavioral research, Icahn School of Medicine at Mount Sinai, division of gastroenterology, New York.

Physician burnout is a growing epidemic, particularly in the early careers of gastroenterologists. Up to 50% of new physicians and trainees experience burnout within the first 3 years of independent practice.¹ The negative consequences of burnout are well known – medical errors, depression, substance abuse, and even suicide.^{2,3} To meet criteria for burnout syndrome (Table 1), one must have two of three core symptoms, often experienced in phases: 1) physical and emotional exhaustion; 2) cynicism and detachment; and 3) feelings of ineffectiveness or lack of accomplishment.⁴

Wondering if you are burned out? Check out a burnout quiz specifically designed for physicians: Oldenburg Burnout Inventory (OLBI) developed by Dr. Evangelia Demerouti (<https://web2.bma.org.uk/drs4drsburn.nsf/quest?OpenForm>).

Emotional exhaustion, one of the earliest symptoms of burnout syndrome was reported to be as high as 63% among gastroenterologists in a survey study I conducted with colleagues a few years ago.⁵ Similar findings are noted amongst colorectal surgeons.⁶ We also noted in our study that burnout levels were highest in junior versus senior attendings, with junior attendings reporting more stress related to performing endoscopies and making split-second decisions. Interventional endoscopists may have been disproportionately affected by the latter, reporting that they were more likely to think about possible mistakes they made after work, have difficulty sleeping because of think-

ing about their day, and have difficulty separating work and personal life.⁵ Male and female physicians may progress through the phases of burnout differently, with men being more likely to experience cynicism and depersonalization first, followed by fatigue. Men also may not necessarily experience the third phase of feeling ineffective, which can be particularly dangerous because they will continue to push until there is a serious consequence. Women tend to go through all three phases of burnout beginning with emotional exhaustion, with a more rapid progression through the cynicism phase, and may end up spending the majority of their time feeling ineffective and limited in their accomplishments, a recipe for leaving medicine entirely.⁷

Prevention of burnout through self-compassion

Even though it may sometimes be easy to forget, most of us chose medicine as our profession because of our inherent compassion toward others and our desire to care for those in need. But have we properly learned how to apply that same compassion to ourselves?

Self-compassion is one of the primary qualities of a happy, flourishing, resilient individual.⁸ Self-compassion is a psychological skill that can be applied to feelings of inadequacy, failure, or lack of control and includes: 1) self-kindness, 2) belief in a common humanity, and 3) mindfulness.⁸ There is a physiological basis to self-compassion – it deactivates our threat system (e.g., adrenaline) and activates our nurturing/caregiver system (e.g., oxytocin-opiate). This is in direct contrast to burnout, which is physiologically characterized

Self-kindness requires us to treat ourselves as kindly as we would a friend or patient in the same situation. We must consciously choose not to use harsh, self-critical language when we make mistakes.



M-IMAGEPHOTOGRAPHY / THINKSTOCK

by dysregulation of the sympathetic and parasympathetic systems and the hypothalamic-pituitary-adrenal axis.⁹ Indeed, there have been some studies demonstrating that a few minutes of self-compassionate behavior lowered cortisol¹⁰ and increased heart rate variability,¹¹ both of which mediate the effects of stress on health.

Are you self-compassionate? Take a quiz to find out! <http://self-compassion.org/test-how-self-compassionate-you-are>.

Self-kindness requires us to treat ourselves as kindly as we would a friend or patient in the same situation. We must consciously choose not to use harsh, self-critical language when we make mistakes. We are taught not to berate our trainees for mistakes in the clinical setting – we can be taught not to berate ourselves for shortcomings as well. Self-kindness also requires that we provide ourselves with sympathy when we experience disappointments through no fault of our own (e.g., despite all my best efforts, this clinical initiative failed) and give ourselves the opportu-

nity to nurture and soothe ourselves when we experience pain.⁶ Belief in a common humanity fosters engagement with others, recognizing that nobody is perfect and that others suffer as well. Isolating ourselves because we feel ashamed, embarrassed, or “crazy” in our experience of a situation only increases our suffering. As we engage with others, we are able to view things from a different perspective and also recognize that others around us have problems too. Indeed, social support may be one of the best buffers against burnout, particularly cynicism.¹² A recent meta-analysis concluded that a combination of institutional engagement techniques including reduced hours and support groups as well as access to individual behavioral techniques such as mindfulness could reduce or prevent burnout.¹³

I have previously commented on the practice of mindfulness in the AGA Community forums (<http://community.gastro.org/groups/community-home/digestviewer/viewthread/?GroupId=25&MID=781&CommunityKey=e->

62b8ea6-80ea-4cf5-ab61-f55803199c8b&tab=di-gestviewer#bm2) and, as a potentially stand-alone component of self-compassion training,¹⁴ recommend it here as well. In addition to traditional mindfulness-based stress-reduction courses and mindfulness meditation practice found in many hospitals and community cen-

tive of reducing burnout, mindfulness allows us to look at our feelings of cynicism, exhaustion, and inadequacy without judgment, to view them as symptoms rather than ugly truths about ourselves and that rather than avoid or suppress these feelings, to be mindful and compassionate toward them.

A recent meta-analysis concluded that a combination of institutional engagement techniques including reduced hours and support groups as well as access to individual behavioral techniques such as mindfulness could reduce or prevent burnout.

ters, individual meditation focused on loving kindness or gratitude as well as mindful exercises such as writing a self-compassionate letter or statements to yourself can be used to offset burnout in daily life.¹⁵ From the perspec-

Self-compassion does not mean that we are indulging ourselves or denying our mistakes – we simply balance out the negative events by embracing what happened and allowing ourselves to still experience a range of positive emo-

Table 1

BURNOUT CHECKLIST		
PHYSICAL AND EMOTIONAL EXHAUSTION	CYNICISM AND DETACHMENT	INEFFECTIVENESS/LACK OF ACCOMPLISHMENT
<ul style="list-style-type: none">• Insomnia• Tension• Worry or irritability• Lack of attentiveness/focus• Drained/depleted after a normal day• Dreading work• Sad or feelings of guilt	<ul style="list-style-type: none">• Loss of interest• Negative attitudes towards patients• “Glass half-empty” attitude/ loss of idealism• Feeling like you can’t rely on others• Closing your door more often so as not to be bothered• No longer responding to emails, not returning patient calls• Coming to work late	<ul style="list-style-type: none">• Asking “why bother”• Feeling unappreciated or unimportant• Being inefficient at work that used to be routine• Feeling unable to cope• Cannot keep to deadlines, ever growing list of to-dos• Mistakes/poor performance

tion. Self-compassion enhances our careers by increasing our motivation,¹⁶ encouraging us to take risks without fear of failure, to persist despite obstacles; it fosters personal growth, and even reduces medical errors.¹⁷ Others notice our self-compassion as well, with those of us who practice experiencing healthier relationships with others (less resentment, jealousy, or competitiveness) and feeling more supported by our colleagues and friends, further buffering ourselves from burnout.¹⁸

Finally, in the spirit of self-compassion, we must not judge ourselves for needing the help of others to navigate adversity – whether that support comes from our personal or professional life, or is provided by a mental health professional, we deserve to be taken care of as much as our patients do.

For more information, please visit the following, helpful resources: www.CenterForMSC.org, www.Self-Compassion.org, and www.MindfulSelfCompassion.org. ■

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