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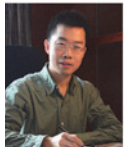
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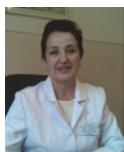
Is Fecal Microbiota Transplantation Through the Mid-Gut a Rescue Therapy for Refractory IBD?

Faming Zhang, MD, PhD



Gut Microbes

Virginia Robles-Alonso, MD
Francisco Guarner, MD



New WGO Member Society: Society of Pediatrics Gastroenterologists and Dietician of Uzbekistan

Altinoy Kamilova, MD

Message from the Editors of e-WGN



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Is it possible you have not heard of the increasing interest in the role of the colonic microbiome in health and disease? The term microbiome is now the correct term that has replaced the outdated term “fecal flora”. Interest in this area is literally exploding in the last few years, with the advent of new technology to study this and the recognition of the role of the microbiome in diseases such as recurrent *Clostridium difficile* infection and the possible role in other GI disease including Inflammatory Bowel Disease and Irritable Bowel Syndrome among others. This year **Gut Microbes** was even the 2014 World Digestive Health Day (WDHD) campaign theme.

We are thus fortunate to have the new multi-authored publication on this topic in the WGO Handbook on Gut Microbes assembled by Dr. Francisco Guarner; this issue contains updates from leaders in the field from all around the world, and is a comprehensive and up to

date guide for clinicians.

In this issue we also provide summaries of some of the WDHD educational programs in India, Pakistan, Ireland and Poland. The Polish program even managed to bring in Alfred Hitchcock movies in their synopsis!

Moreover we have an update by Francisco Guarner and Virginia Robles-Alonso on *Gut Microbes*, initially published in the October 2012 issue of *e-WGN*. Just the fact that an update is done within two years tells you how rapidly this field is advancing.

We also feature a summary of clinical research conducted in China: The article, *Is Fecal Microbiota Transplantation Through the Mid-Gut a Rescue Therapy for Refractory IBD?* by Faming Zhang. It describes an uncontrolled clinical trial of patients in China with refractory IBD who have been treated with FMT (what we used to call “stool transplant”) with exciting results. We await results of

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randomized controlled trials, some of which are being conducted in other countries.

We welcome WGO's new member, the Society of Pediatric Gastroenterologists and Dieticians of Uzbekistan; you will find a fascinating story about this country and the society in the following pages. If you take care of patients with irritable bowel syndrome, please check the WGO's [educational program on IBS](#) now available for the general public; this has just been released in 4 languages. It is excit-

ing that this web-based educational program for the general public has now been released in French, German, Italian and Spanish because our patients now have an informative and balanced program to view.

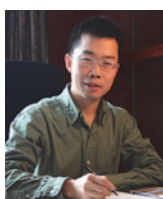
Finally, please read the story *Getting Underway in The Gambia*. The work that Des Leddin and John Igoe started in The Gambia deserves high praise, as it fits with the mission of the WGO Training Centers to help local physicians deliver training to the future generations of providers but even

more inspirational are the Gambian physicians and health care workers who do so much with so few resources

We hope you enjoy this issue, and as always feedback and comments are welcome.



Is Fecal Microbiota Transplantation Through the Mid-Gut a Rescue Therapy for Refractory IBD?



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Introduction

The concept of using stool or extraction from fermented stool from a healthy donor to treat patients with gastrointestinal diseases actually dates back to ancient China 1700 years ago, when the stool matter was given orally to treat food poisoning and diarrheal diseases¹. In 1958, stool from the healthy donor was given by enema to treat four patients with pseudomembranous colitis, which was the first record in English literature². In recent years, fecal microbiota transplantation/transplant (FMT) using frozen fecal microbiota has been proven as effective with fresh feces for recurrent *Clostridium difficile* infection (CDI)³. As a milestone in the history of using gut bacteria to treat diseases, FMT was for the first time classified as a guideline-proposed option for treating recurrent CDI in 2013⁴. However, the therapeutic power of FMT may be not only for CDI. Increasing evidence has indicated the potential role of FMT to treat inflammatory bowel disease (IBD)^{5,6}, although the reports of application of FMT to the management of severe IBD, especially for CD, have been very limited in the literature⁷⁻⁹. We have initiated an exploratory study to answer whether FMT could be a safe and effective rescue therapy for refractory IBD.

Method and Results

Since October 2012, we have performed FMT in more than 130 patients with refractory severe IBD (without CDI) under two registered clinical trials. We treated selected patients who had failed or were not suitable for biotherapeutics, immunosuppressant⁵, steroids, aminosalicic acid, and even surgery. At least one week prior to FMT, all treatments were discontinued including biotherapeutics, immunosuppressant, steroids, and traditional Chinese medicine. One hour before FMT, intravenous injection of proton pump inhibitors and intramuscular injection of metoclopramide were given. The stool suspension was infused into the mid-gut by gastroscopy under anesthesia, nasojejunal tube or tube via stoma. Therefore, the route of transplantation was called mid-gut instead of duodenum. For some patients, mid-gut administration may be better than that through the colon. For example, in some patients with severe UC the colon cannot hold the contents infused by colonoscopy. In others with CD, strictures may limit the colonoscopy and there is a risk of perforation. A single FMT through the mid-gut with a stable volume of purified fecal microbiota is adequate for most of the refractory cases. A second FMT is done one week later for the very few

patients who were steroid dependent and failed to respond to the first FMT. Otherwise, no more FMTs were necessary within a short period after the first FMT.

The overall rate of clinical improvement and clinical remission based on the clinical activity in the first month was over 80% and 70%, respectively, which were higher than other assessment points within a 15-month follow-up. The body weight of patients increased after FMT, and lipid profile improved as well. IBD related extraintestinal manifestations such as skin lesions also improved. FMT was a fast and significant effect in relieving Crohn's colitis related abdominal pain. We have reported a case of severe refractory CD complicated with fistula and a large inflammatory mass that resolved after a single FMT as a rescue⁹. This patient has had a sustained clinical, endoscopic remission for 18 months to date. The improved inflammatory and immunological markers suggest the successful remodeling of the gut microbiome and maintenance of immune homeostasis. There have been no severe adverse events during endoscopic infusion or during the follow-up after FMT. We established a standardized laboratory protocol and clinical work flow, including donor identification, purification of fecal microbiota, banking of frozen fecal microbiota, endoscopic infusion procedure and a clinical evaluation system. The "shotgun" sequencing indicates that the crudely purified fecal microbiota should be quite similar to original feces. The standardized fecal microbiota preparation and clinical flow significantly simplified the FMT.



An automatic system called GenFMTer was used to isolate fecal microbiota from stool.

FMT: Quality Control and Feasibility

It would be ideal to standardize FMT. If the purification of fecal microbiota can be technically controlled it might be more available; otherwise its application in the world would be restricted by health policy if there is no quality control.

The best solution for this problem is to allow the procedures to be performed automatically with machines, GenFMTer. The latest news, from my team cooperating with Dr. Youquan Zhao and Dr. Huiquan Wang at Tianjin University Precision Instrument College in China, is the successful development of a new automatic system for purification of fecal microbiota from fresh feces. This will advance the standardized FMT from a bio-safety cabinet to automatic instruments. The operator only needs to press the buttons related to the designated processes and all procedures can be done in less than a half an hour. Since we do not know the changing of fecal viable organism after the feces is expelled from the colon, it may be the best way to transplant those microbiota back to the gut as soon as possible.

What Will We Do in the Future?

FMT has been used as a rescue therapy for refractory IBD in our center, treating patients from all over China. These patients generally had complicated IBD. However FMT should

not be regarded as a pure technology when it is used for patients with severe diseases. Additionally, it remains unclear why some cases with IBD did not response to FMT.

Our clinical pilot demonstrates that FMT through the mid-gut may be a safe, feasible and efficient rescue therapeutic option for refractory IBD. In the future, multi-center randomized clinical trials should be done. Also, more studies are needed to focus on mechanisms, indications, methodology, cost-effectiveness analysis and long-term safety. As an effective, safe and economic therapy, FMT may be moved into the mainstream of IBD treatment sometime in the future.

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Gut Microbes



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Microbial communities: different approach, novel insights

Until recent years, our knowledge on the human gut microbiota was largely limited to certain community members with potential pathogenicity by either translocation or production of toxins. Most of these potential pathogens were isolated in culture and recognized by traditional diagnostic techniques. However, culture-based techniques to identify bacteria have important limitations, and the large majority of bacteria in the human gut are considered 'unculturable' for the great difficulties for growing them in the laboratory. Their potential role in health or disease has been ignored.

The notion of a host-microbe symbiotic relationship in the gut, in terms of proven benefits or mutualism among partners, is supported by studies carried out with animals born and bred under germ-free conditions¹. Compared with colonized counterparts, germ-free mammals or birds exhibit major differences in body anatomy and physiology. These studies clearly indicated that microbial

communities colonizing the animal host have a strong influence on body growth and development, as well as on the induction and regulation of the immune system, thus contributing to maintenance of health during life. However, very little is known about nature and biological characteristics of the critical symbionts inducing beneficial effects on the animal host.

The advent of high-throughput technologies has changed our perspective dramatically. First, these technologies are culture independent and, remarkably, they allow the characterization of microbial communities as a whole, enabling a deeper and global view of all the community members and their relative abundance². The novel approach for the analysis of microbial communities in environmental samples is called "metagenomics", and is defined as the study of all the genetic material recovered directly from environmental samples bypassing the need to isolate and culture individual community members³. The metagenome is the collective genetic content of the combined genomes of

the constituents of an ecological community. The microbiome is defined as the collective genome of the microbial symbionts in a host animal⁴.

The most common approach consists of the extraction of DNA from the biological sample, followed by the amplification and sequencing of 16S ribosomal RNA genes in the sample. The 16S rRNA gene is present in all bacteria and contains both conserved and variable regions. Thus, similarities and differences in the sequence of nucleotides of the 16S rRNA gene allow taxonomic identification ranging from the domain and phylum level to the species level. Currently, around three million aligned and annotated 16S rRNA sequences are available in DNA databases (<http://rdp.cmc.msu.edu/>). Taxonomic identification is based on comparison of 16S rRNA sequences in the sample with reference sequences in the database. In this way, studies on the 16S rRNA gene provide information about microbial composition and diversity of species in a given sample.

The most powerful molecular approach is not limited to 16S rRNA sequencing but addresses all the genetic material in the sample. The decreasing cost and increasing speed of DNA sequencing, coupled with the advances in computational analyses of large datasets, have made it feasible to analyze complex mixtures of entire genomes with reasonable coverage. The resulting information describes the collective genetic content of the community from which functional and metabolic networks can be inferred. Thus, the full metagenomic approach has the advantage of not only providing the phylogenetical characterization of the microbial community but

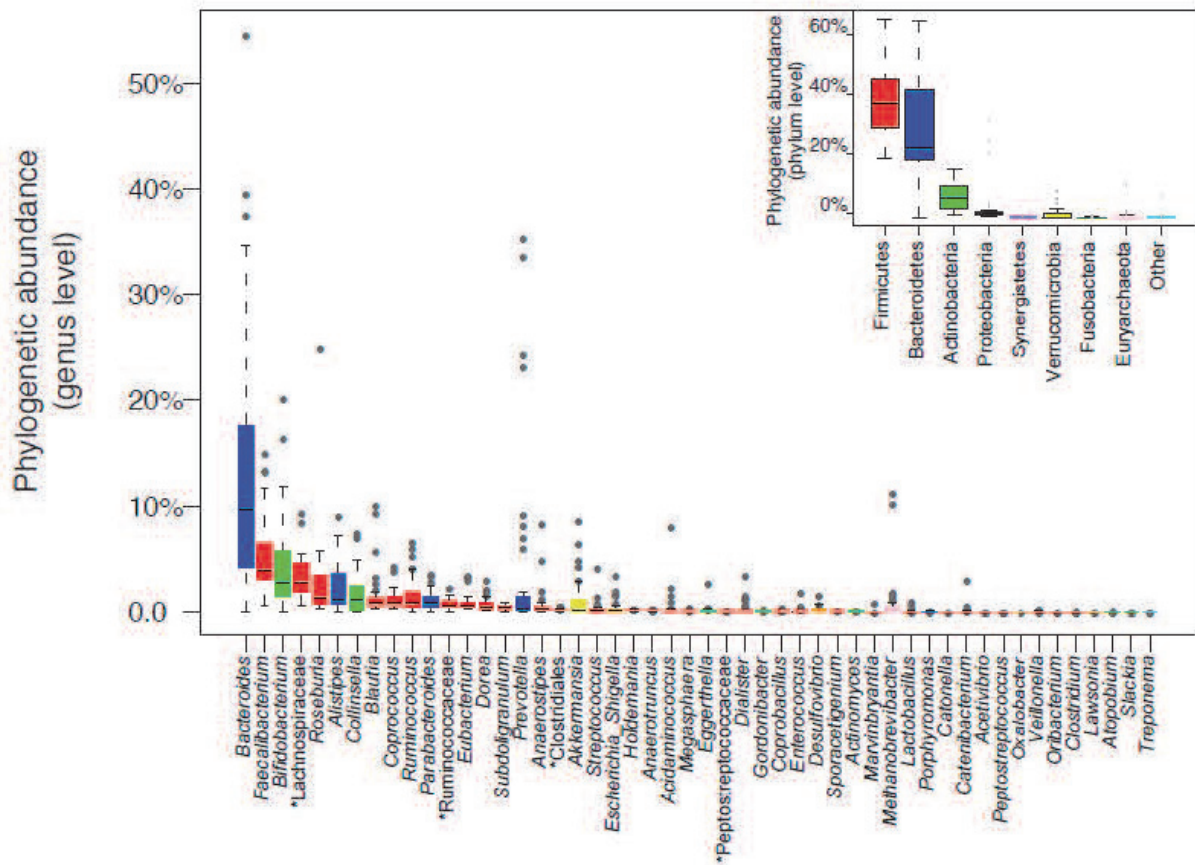


Figure 1: Genus abundance variation box plot for the 30 most abundant genera of the human gut microbiota as determined by metagenomic sequencing of human fecal samples. Genera are colored by their respective phylum (see inset for color key). Inset shows phylum abundance box plot. Genus and phylum level abundances were measured using reference-genome-based-mapping (Source: from Figure 1b in: Arumugam M et al. Enterotypes of the human gut microbiome. Nature 2011; 473:174-180; with permission).

also telling about biological functions present in the community.

The Gut Microbiota

Estimates suggest that the colon, the largest ecological niche for microbial communities in the human body, harbors over 10^{14} microbial cells, i.e. several hundred grams of microbes, most of them belonging to the domain Bacteria. Molecular studies based on 16S rRNA gene sequencing have highlighted that only seven to nine of the 55 known divisions or phyla of the domain Bacteria are detected in fecal or mucosal samples from the human gut⁴⁻⁷. Moreover, such studies also revealed that more than 90% of all the phylotypes belong

to just two divisions: Bacteroidetes and Firmicutes (Figure 1). The other divisions that have been consistently found in samples from the human distal gut are Proteobacteria, Actinobacteria, Fusobacteria, and Verrucomicrobia. Of the 13 divisions of the domain Archaea, only one or two species seem to be represented in the human distal gut microbiota. Thus, at the division level, the human intestinal ecosystem is less diverse than other ecosystems on earth, like soils and ocean waters which may contain 20 or more divisions⁵. However, at a lower taxonomic level (species or strain), there is a considerable variation in the composition of the fecal microbiota among human individuals. Strain diversity

between individuals is highly remarkable so that studies have found that a large proportion of the identified strain-level phylotypes are unique to each person⁵. Each individual harbors his or her own distinctive pattern of bacterial composition.

In a cohort of 124 European adult subjects, a total of 3.3 million microbial genes were characterized by full metagenomic analysis of fecal samples⁶. This effort has provided the first gene catalogue of the human gut microbiome. Each individual carries an average of 600,000 non-redundant microbial genes in the gastrointestinal tract. This figure suggests that most of the 3.3 million genes in the catalogue are shared. It was found that around

300,000 microbial genes are common in the sense that they are present in at least 50% of individuals. Up to 98% of genes in the catalogue are bacterial, and the entire cohort of individuals harbors between 1,000 and 1,150 prevalent bacterial species, with at least 160 species per individual⁶. Interestingly, *Bacteroides*, *Faecalibacterium* and *Bifidobacterium* are the most abundant genera but their relative proportion is highly variable across individuals (Figure 1).

Network analysis of species abundance across different individuals suggested that the overall structure of the human gut microbiota in each individual conforms to discrete and distinct patterns defined by interactions within community members. This hypothesis was investigated using a dataset of metagenomic sequences from American, European and Japanese individuals. The phylogenetic analysis for taxonomic assignments was per-

formed by mapping the metagenomic sequences to the reference genomes of fully sequenced bacteria. Multidimensional cluster analysis and principal component analysis revealed that all individual samples formed three robust clusters, which have been designated as ‘enterotypes’⁷. Each of the three enterotypes is identifiable by the variation in the levels of one of three genera: *Bacteroides* (enterotype 1), *Prevotella* (enterotype 2) and *Ruminococcus* (enterotype 3). The basis for the enterotype clustering is unknown but appears independent of nationality, sex, age, or body mass index. The enterotype concept suggests that enteric microbiota variations across individuals are generally stratified, not continuous. This further indicates the existence of a limited number of well-balanced host-microbial symbiotic states.

Interestingly, it seems that the reported enterotype partitioning is

related to long-term dietary patterns⁸. The *Bacteroides* enterotype was associated with diets enriched in protein and fat. In contrast, the *Prevotella* enterotype was linked to diets with predominance of carbohydrates and sugars.

Sequencing analysis has allowed describing not only differences in microbial communities between humans but also intra-individual variability (Figure 2). Factors such as diet, drug intake or travelling may have an impact on microbial composition over time in a unique host. A recent study⁹ collected samples from three different body sites (gut, mouth and skin) of two healthy subjects on a daily basis for a period of 15 and six months, respectively. Community differentiation by body site is highly stable over time but, within the same body site, a low stability across time was noted. At species level, very few microbial members would constitute the so-called ‘core human gut microbiota’¹⁰, since only 5% of species

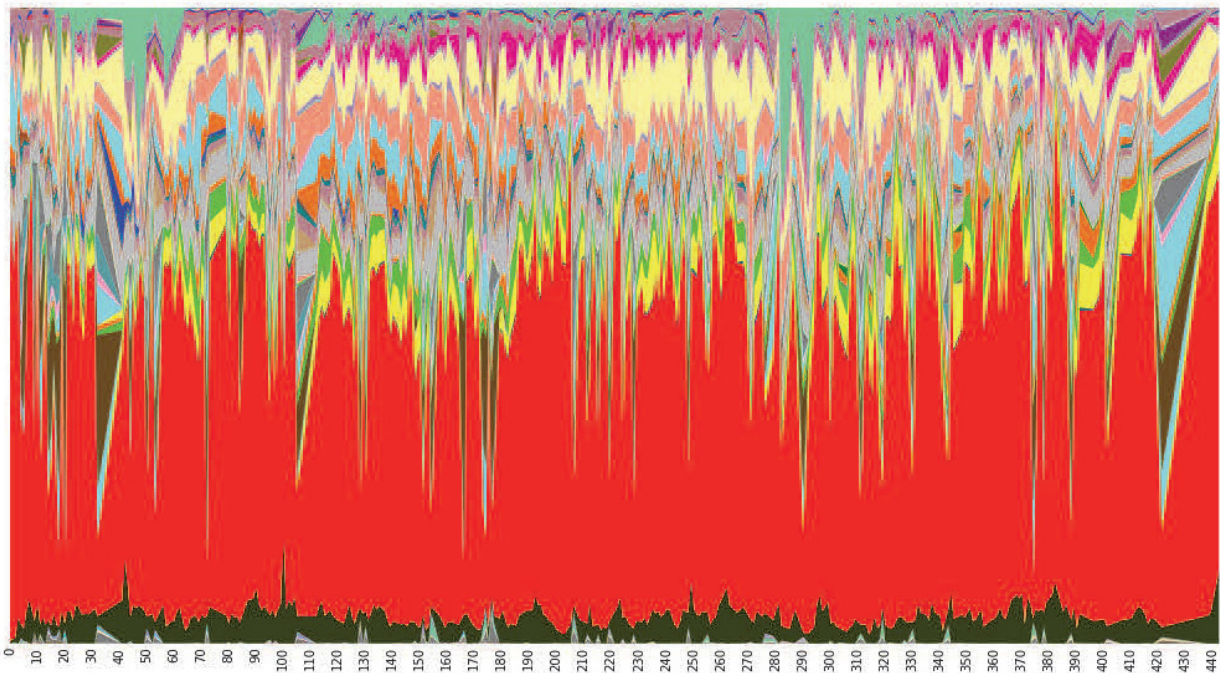


Figure 2: Temporal variation in genus abundance in fecal samples from a single human individual, who was sampled daily for 15 months. Columns represent microbial composition of each sample at genus level, and colors indicate genera as follows: *Bacteroides*, red; *Faecalibacterium*, beige; *Akkermansia*, pale green; *Roseburia*, light blue; *Parabacteroides*, yellow; other bacteroides, black; *Bifidobacterium*, grey, etc. (Source: from Additional file 8 in: Caporaso JG, Lauber CL, Costello EK et al. (2011) *Genome Biol* 12(5):R50; with permission).

were always present in all samples from the same individual.

Dysbiosis as a cause of disease

An imbalance of the normal gut microbiota composition is called dysbiosis. Different diseases have been associated with changes in the composition of the gut microbiota.

The world is facing a global health crisis provoked by an obesity epidemic. The incidence of malignant forms of obesity that are associated with cardiovascular complications, the metabolic syndrome, is steadily increasing in Western countries. Some recent data on the metabolic syndrome suggest that changes in gut microbiome composition may play a role in the disorder. Studies performed in mice revealed a shift in the abundance of Bacteroidetes and Firmicutes¹¹. In addition, recent human studies have shown that low genetic diversity in the gut microbiome increases the risk of several features associated with the metabolic disorders¹². The study recruited obese and non-obese individuals and those with a low bacterial gene count showed an inflammatory profile (increased C-reactive protein), disturbed glucose homeostasis (hyperglycemia, insulin resistance) as well as body fat accumulation (leptin resistance). Surprisingly, those alterations were linked to reduced microbial diversity independently of the presence of obesity or not. A subsequent study¹³ revealed that a low-caloric diet including prebiotics (5-6g of inulin per day) increases the diversity of the intestinal microbiota, and reduces inflammatory abnormalities.

In animal models, transplantation of gut microbiota from obese mice to non-obese, germ-free mice resulted in transfer of metabolic syndrome-associated features from the donor to the recipient¹⁴. The mechanisms advocated are the provision of additional energy by the conversion of dietary fiber to short-chain fatty acids,

effects on gut-hormone production, and increased intestinal permeability causing elevated systemic levels of lipopolysaccharides. The contact with these antigens seems to contribute to low-grade inflammation, a characteristic trait of obesity and the metabolic syndrome. Presumably, obesity affects the diversity of the gut microbiota and probably, the way individuals harvest energy from nutrients.

The possible role of the intestinal metabolome on the development of cardiovascular risk is another hot issue. Phosphatidylcholine is a phospholipid involved in several metabolic functions, including the synthesis of neurotransmitters and amino acids, or structural features, such as being part of the cell membrane. Recent studies show that some members of the gut microbiota can degrade phosphatidylcholine to toxic metabolites, in particular to trimethylamine N-oxide (TMAO)¹⁵, whose plasma levels are directly related to risk of cardiovascular events. In human studies, administration of a course of broad spectrum antibiotics decreases TMAO levels, demonstrating the contribution of some gut microbes to plasma TMAO. These findings reinforce the concept the microbiota is a metabolic organ that in addition to beneficial effects may also be involved in certain pathophysiological mechanisms.

One of the major hypotheses underlying the pathogenesis of inflammatory bowel disease (IBD) is the presence of abnormal communication between gut microbial communities and the mucosal immune system¹⁶. Luminal bacteria appear to provide the stimulus for immune-inflammatory responses leading to mucosal injury. There is also some evidence showing that the microbiota of patients with IBD differs from that of healthy subjects. Differences include low biodiversity of dominant bacteria, high variability over time,

and changes both in composition and spatial distribution (high concentrations of mucosa-adherent bacteria). The microbiota of Crohn's disease patients is characterized by a decrease in *Faecalibacterium prausnitzii*¹⁷ as well as increased numbers of the Proteobacteria and Actinobacteria phyla¹⁸. Some other associations of human conditions with particular microbiota characteristics have been described such as irritable bowel syndrome, psoriasis, colorectal carcinoma and childhood-onset asthma, but consistency among studies is still poor.

Irritable bowel syndrome (IBS) is another chronic digestive disorder. Although no structural abnormalities have been demonstrated, molecular changes such as increased permeability of the intestinal barrier and increased visceral sensitivity are common features in IBS sufferers. Some evidence suggests that gut microbes can be involved in the origin of such alterations. Recent data suggest decreased diversity in small-bowel microbiota of patients with IBS, with increased abundance of gram-negative organisms¹⁹.

Microbial therapeutics

Even if associations of dysbiosis with disease do not necessarily predict cause-effect relationships, there is growing interest to develop strategies that will improve the 'physiological' quality of the human gut microbial ecosystem for health benefits. As suggested by experts, the future of a healthy human gut microbiota may include the restoration of our ancestral microbial ecology. According Cho and Blaser²⁰ there are two possible types of restoration. The first involves restoring ancient organisms in healthy hosts that lack them, as prophylaxis against future risk of disease. The second type of restoration could be therapeutic, when the etiological extinctions or imbalances are clearly identified. This scientific boundary will require an understanding of the

biology of re-introductions, as well as developing microbial breeding programs²⁰.

Different interventional approaches have emerged, including the use of antibiotics, probiotics, prebiotics, combinations of probiotics and prebiotics, or techniques for microbial reconstitution by fecal transplantation. The referred approaches aim at improving host-microbes symbiosis in the gut by combating overgrowth of opportunistic community members or providing live microorganism or metabolic substrates in order to promote growth and activity of beneficial species.

Probiotics were defined as “live micro-organisms which, when administered in adequate amounts as part of food, confer a health benefit on the host” as proposed by the Joint FAO/WHO Expert Consultation in 2001. Our guideline for the use of probiotics and prebiotics in gastroenterology is available online²¹, and will be updated later this year.

The term prebiotic refers to “a selectively fermented ingredient that allows specific changes, both in the composition and/or activity in the gastrointestinal microbiota that confers benefits upon host well being and health”. Concurrently, a prebiotic should not be hydrolyzed by human intestinal enzymes, it should be selectively fermented by beneficial bacteria, and this selective fermentation should result in beneficial effects on health or well-being of the host²².

Finally, fecal transplant has emerged as an alternative approach to treat relapsing diarrhea by *Clostridium difficile* infection. This procedure has shown success in a subset of patients who failed standard treatment, with reported response rates up to 87%²³. A total of 239 patients who had undergone fecal transplantation were reported. Seventeen of 22 studies of fecal transplantation were performed in patients with fulminant or refractory *Clostridium difficile* infection. The

major concern about this approach is the potential risk of transmitting infectious diseases²³.

Conclusions

The development of novel gene sequencing technologies as well as the availability of powerful bio-informatic analysis tools have allowed a dramatic proliferation of research work on the human gut microbiota. Large-scale studies are providing a deeper insight on the microbial communities that usually inhabit the human gut, and allow the identification of changes that are associated with disease states. A better knowledge of the contributions of microbial symbionts to host health will certainly help in the design of new potential interventions to improve symbiosis and combat disease. Moreover, such sequencing techniques provide novel insights into the field of infectious diseases by enabling the discovery of microbial pathogens, more accurate diagnostic tests, and disclosure of drug-resistance profiles²⁴.

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Glossary

Dysbiosis: An imbalance of the normal gut microbiota composition.

Enterotype: A classification of the human gut microbial communities into three groups or types, on the basis of the bacteriological composition of the ecosystem (diversity and abundance of the predominant genera).

Metagenome: The total genetic content of the combined genomes of the constituents of an ecological community.

Metagenomics: The study of all the genetic material recovered directly from environmental samples by-passing the need to isolate and culture individual community members.

Microbiome: The collective genome of the microbial symbionts in a host animal.

Microbiota: The collection of microbial communities colonizing a particular ecological niche.

Phylotype: A microbial group defined by 16S rRNA sequence similarity rather than by phenotypic characteristics. A similarity of 97% indicates approximately a species-level.

Symbionts: The microbial partners in symbiosis.

Symbiosis: Close and persistent interactions between living organisms of different species. Biological interactions may be mutualistic (both partners derive a benefit), commensalistic (one partner benefits without affecting the other), or parasitic (one benefits while the other is harmed). Most scientists believe that the term symbiosis should only refer to mutualistic relationships.



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World Digestive Health Day 2014 News and Events

INDIA

The Cochin GUT Club celebrated the World Digestive Health Day on 29 May at Cochin. They had a short inaugural address by the senior most Gastroenterologist in Cochin, Prof. Philip Augustine, followed by a panel discussion on “GUT microbiota in health and disease”. The event was attended by the gastroenterology, pediatrics and physician communities of Cochin.



The inauguration during the Cochin GUT Club WDHD event.

IRELAND

The Alimentary Pharmabiotic Centre (APC) held a Public Forum at the University College Cork titled “Microbes Matter: Gut Bacteria in Health & Disease” for World Digestive Health Day, to share information on the role of gut bacteria in irritable bowel syndrome, inflammatory bowel disease, regulating weight gain, behaviour and stress as well as the impact of exercise. The event, which took place on Tuesday, 27 May, had an attendance of more than 100 participants. Sally Cudmore, APC



Participants listen to Prof. Paud O'Regan, Chair of the Public Forum.

General Manager, introduced the chairperson, Prof. Paud O'Regan, Consultant Gastroenterologist, South Tipperary General Hospital.

PAKISTAN

World Digestive Health Day was observed on 29th of May by the Department of Hepatogastroenterology, SIUT, Karachi. The Theme of the symposium was “GUT MICROBES IN HEALTH AND DISEASE”.

Dr. Zaigham Abbas in his introductory remarks said that gut flora, now known as gut microbiota, plays a key role in the physiology, metabolism and immune function, and have a significant impact beyond the gastrointestinal tract. Therapeutic manipulation of gut flora is helpful in the treatment of certain GI and liver diseases.

Dr. Osama Butt presented the topic “GUT Microbe and Health”. It was highlighted that there are approximately 100,000 billion bacteria residing in the human gut which is far greater than even the total number of cells in the human body. Most



of these bacteria are friendly for the human body and help in maintaining normal body functions. The role of probiotics and prebiotics was also emphasized during the talk.

Dr. Rajesh Kumar talked on the “Role of Microbes in Irritable Bowel Syndrome”. IBS can severely affect a person's quality of life. IBS may occur after an infection. Antibiotics and probiotics may be useful in the treatment of IBS.

Dr. Farina Hanif highlighted the “Association of Gut Microbes and Liver Disease”. She explained that the harmful microbes enters the blood system through gut lining and cause liver injury in the form of liver stiffness, injury and can even cause liver cancer. The role of probiotics was also elaborated on.

Dr. Manzoor emphasized that gas and bloating may affect as much as 30% of the general population. He advised that minor dietary and lifestyle modifications may help



Participants during a symposium on “Gut Microbes in Health and Disease” in Karachi.



The Faculty of the symposium in Karachi on 29 May.

to combat the disease effectively. Eliminating the certain gas producing products from the diet can help to do away from gas and bloating.

Dr. Mudassar Laeeq gave a talk on the concept of Fecal Transplant. It is a new, emerging technique for reducing the duration of antibiotics in certain diseases. It is also helpful for restoring the normal friendly gut microflora.

The lectures were followed by a comprehensive session of questions and answers conducted by Dr. Nasir Hassan Luck, in which the audience actively participated. A large number of doctors, nurses, physician assistants, and medical students participated in the symposium.

POLAND

Since the discovery of a mysterious

new world of bacteria by Antony Leeuwenhoek, through laborious efforts of Lazzaro Spallanzani who proved the origin of bacteria – the science of microbiology began. Robert Koch and Louis Pasteur told us that bacteria are a menace. Ignaz Semmelweis taught us that bacteria are deadly. The twentieth century medical thinking had been focused on the search for and a fight against a single microbe responsible for the cause of a disease. This bad microbe can be viewed as a psycho. Who of us does not remember an American movie classic directed by British director Alfred Hitchcock – “Psycho”? If a psycho is alive and acts, it can take us to the realm of Hitchcock’s *North by Northwest* and further to the realm of Hitchcock’s *Birds*. Mad birds not knowing why and without any reason suddenly attack innocent people – we move to the realm of sepsis. Is a psycho able to make a rebel or cause panic in a society – is a single microbe able to evoke quorum sensing and induce sepsis? According to that analogue - shall we wait for sepsis to occur or is it better to prevent it and kill the psycho first?

With the discovery of antibiotics we got the powerful weapons to get rid of many bad microbes. The cure for

many infectious maladies as well as diseases previously not associated with microbial factors (e.g. peptic ulcer) was found. Unfortunately, antibiotics do not choose which bacteria to kill, but without any selection wipe out the whole microbial populations in our guts. Until recently our knowledge about diverse microbial world thriving in our digestive tract was scarce. With the advent of sophisticated molecular techniques we found out how rich and important this world is to our health and wellbeing.

In the last decade the large body of evidence concerning the microbiota has been mounted, published and spread among scientists. Today the time has come to bring this new knowledge into practice. Together and under the auspice of the World Gastroenterology Organisation (WGO) we sought to raise awareness of the role of microbiota in health and disease among medical practitioners, dietitians, and most importantly, among the lay public. The West Pomeranian Division of the Polish Society of Gastroenterology, in collaboration with the Polish Association of People on Gluten Free Diet and with Coeliac Disease, on 17 May 2014, held an International Day of Gut Microbiota and Celiac Disease. “Gut Microbes - Importance in Health and Disease” was the main theme of this conference and part of a campaign for World Digestive Health Day 2014. West Pomeranian Voivodeship, City Council, Regional Chamber of Physicians, Pomeranian Medical University, SPSK1 University Hospital and the International Federation of Medical Students Association (IFMSA Poland) were among Honorary Patrons of the conference.

This event gathered more than 150 participants to whom state of the art lectures were delivered. Medical practitioners and key opinion leaders of different medical fields presented



Faculty at the World Digestive Health Day 2014 event –SPSK 1 Szczecin / Poland. From the left: A. Grzechowiak, J. Dabrowski, A. Sztukowska, W. Marlicz, R. Kurzawa, P. Tybura, J. Meller, O. Platek, Z. Hamertak, G. Czaja-Bulsa, R. Bozyk, and our GI endoscopy nurses: G. Nowacka, L. Karaszewska, and A. Dziergas.



Participants of the World Digestive Health Day 2014 event—SPSK 1 Szczecin / Poland.

topics which revolved around intestinal microbiota and celiac disease. The opening lecture was presented by Dr. Wojciech Marlicz (Department of Gastroenterology, PUM) who gave a nice overview of the role of gut microbiota in health and disease. Prof. Grazyna Czaja-Bulsa (Department of Pediatric Gastroenterology, PUM) gave an excellent overview on celiac disease and non gluten celiac sensitivity as well as related disorders in children and young adults. Prof. Bulsa pointed also towards the microbial links with these diseases. Prof. Rafal Kurzawa (Department of Gynecology, PUM) delivered an exciting lecture on the importance of diet in woman's reproductive life cycle. Prof. Kurzawa pointed towards the link between the gut, metabolic endotoxemia and insulin resistance in the pathogenesis of several pathologies of female's reproductive system. Mrs. Anna Grzechowiak (Board Certified Dietitian) and Mrs. Jolanta Meller (Polish Association of People on Gluten Free Diet and with Celiac Disease) addressed important topics concerning the structure of diet and quality of life of people on gluten-free diets in our country. While talking about celiac disease this meeting could not be organized without also hearing from our leading endocrinologist, Dr. Monika Koziolok (Department of Endocrinology, Metabolic Disor-

ders and Internal Diseases, PUM). She presented an elegant overview of disorders of the endocrine system associated with gluten enteropathy. Dr. Piotr Tybura (Department of Psychiatry, PUM) informed us how the choice of diet might influence the therapeutic process of psychiatric disorders. His talk circulated around common mood disorders but also focused on attention deficit disorders (ADHD), Tourette's syndrome, Alzheimer's disease, schizophrenia, autism and depression. Extremely important evidence was presented by our dentist Dr. Zbigniew Hamerlak (University Hospital SPSK1, PUM). He presented his own data and delivered proof of how oral hygiene and maintenance of microbial balance in mouth cavity is important to our health. Photographic evidence was displayed, presenting examples of how poor oral hygiene can lead to various disorders, complicate treatment plans or impairs patient's quality of life. Dr. Hamerlak also gave a short overview on his own treatment strategies based on pH modulation using self prescribed fluids for rinsing oral cavity.

The next lecture was delivered by Dr. Marlicz who discussed common diagnostic pitfalls of small bowel enteropathy. Dr. Marlicz stressed the importance of history-taking, especially in terms of elucidating the patient's history of medicinal use and

overuse. The next lecture was focused on the utility of serologic and genetic diagnostic tests for celiac disease and was given by Mr. Michal Podkalicki (Euroimmun, Polska). At the end it is important to state that nowadays we are fortunate to understand the importance and impact on health of gut microbiota modulation.

According to a Paul Ehrlich quotation: "we must learn to shoot microbes with magic bullets"; the question arises – are probiotics the magic bullets? This question was addressed in the final lecture by Dr. Janusz Dabrowski (I.P.C. International Pharmaceutical Consulting). Dr. Dabrowski taught us that according to various statistics, up to 30% of patients with celiac disease do not respond to a gluten-free diet. The reason behind it might be more expensive gluten-free food, worse quality of life of people on a gluten free diet, and difficulties to completely eliminate traces of gluten present in various products. Maintaining the gut barrier integrity by means of diet, exercise, prebiotics and probiotics could be novel and important adjunct therapy for patients with celiac disease and on a gluten free-diet.

After the final lecture, dietary interventions aimed to modulate gut microbiota and manage celiac disease as well as non gluten celiac sensitivity were discussed. The World Digestive Health Day 2014 was open access and free of charge. All efforts were made (leaflets, posters, internet, social and public media as well as personal communications) to inform the lay public about this event. Participants were invited to taste gluten free food offered by local manufacturers. At the end of the conference the group photographs were taken. We are looking forward to collaborating further with the World Gastroenterology Organisation for the benefit of all our patients. ■

AGA Clinical Congress of Gastroenterology and Hepatology: *Clinical Practice Skills in a Changing World*



Gary W. Falk, MD, MS

Professor of Medicine
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University of Pennsylvania Perelman School of Medicine
Philadelphia, Pennsylvania

The American Gastroenterological Association (AGA) recently concluded their annual Clinical Congress of Gastroenterology and Hepatology: *Clinical Practice Skills in a Changing World*, on January 17 and 18, 2014, at the Loews Miami Beach Hotel, FL, USA. This live program is designed by GI clinicians for GI clinicians. The Congress provides practical and immediately applicable solutions on how to improve patient outcomes and strengthen professional competence in a rapidly changing GI field.

In 2014, attendees explored recent developments in the detection, management and treatment of GI and liver disorders including esophageal, small bowel, colonic and pancreaticobiliary disorders as well as inflammatory bowel disease and hepatology. The course directors and faculty contributed the latest updates on key clinical issues to help the audience enhance their clinical decision-making skills and delivery of patient care.

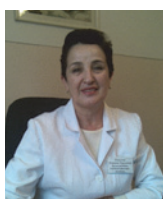
Attendees took away practical information on the full spectrum of GI and hepatic disorders, immediately applicable in both practice and hospital settings. The audience found out

what lies ahead for GI practices in the ever-changing health-care environment with our practice management session on day one of the Congress. Along with practical information of GI and hepatic disorders, the revised practice management session provided information on important changes in health care that will impact GI practice management.

At the end of the congress, Gary Falk, MD, course director of this year's congress, provided the audience with the top 10 take-away points from each lecture. Here are some of the highlights.

- For esophageal eosinophilia, exclude proton-pump inhibitor (PPI) responsive esophageal eosinophilia (PPI-REE) first.
- Think medications in addition to opiates in patients with suspected gastroparesis:
 - o Oral hypoglycemics, tramadol.
 - o Tacrolimus in organ transplant patients.
- Remember IgG anti-DGP moving forward in equivocal celiac disease testing.
- Evidence accumulating for fecal transplant in *C. difficile* infection,
- Be proactive in IBD management — ongoing disease activity problematic for recurrence:
 - o Mucosal healing is important.
 - o Risk stratify for prevention of postoperative recurrence.
 - o TNF response correlates to trough levels.
- Beware right-sided colon lesions:
 - o Mucus cap.
 - o Decreased vascular markings.
 - o Utilize image enhancement:
 - Chromoendoscopy.
 - Narrow-band imaging.
- Resect and discard may be coming:
 - o NICE criteria for adenomas versus hyperplastic polyps:
 - Color.
 - Vessels.
 - Pit pattern.
- Management of pancreatic cystic lesions best done by consulting 2012 guidelines.
- Acute pancreatitis may be triaged for severity by systematic inflammatory response syndrome:
 - o Early infections typically extra-pancreatic.
 - o Think step-up therapy for pancreatic necrosis.
- New HCV clinical trials have remarkable results with greater than 90 percent sustained virologic response:
- NAFLD is not NASH:
 - o Weight loss and exercise reduces steatosis.

New WGO Member Society: Society of Pediatrics Gastroenterologists and Dietician of Uzbekistan



Altinoy Kamilova, MD

Head of Gastroenterology Department of the Republican Specialized Scientific and Practical Medical Center of Pediatrics
President of the Society of Pediatrics Gastroenterologists and Dietician of Uzbekistan
Tashkent, Uzbekistan

Uzbekistan is located in the central part of Central Asia in a beautiful oasis between two rivers: the Amudarya and Syrdarya. This truly fantastic country charms at first sight. The beauty of its nature captures emerald green foliage on a background of the blue sky and white clouds. There is also an abundance of ancient monuments and its ancient architecture. Uzbekistan has a rich and diverse natural environment. Uzbekistan is Central Asia's most populous country. Its 30,183,400 citizens comprise nearly half the region's total population. The population of Uzbekistan is very young: 34.1% of its people are younger than 18 (2008 estimate). About 120 nations and nationalities live on its territory. According to official sources, Uzbeks comprise a majority (80%) of the total population. The capital city is Tashkent. The city possesses the highest economical, scientific and cultural potential in the country. After gaining Independence in 1991, Uzbekistan medicine rose to a new world level. The main aim of the measure in the field of health care is to provide all sectors of the population qualified medical care.

The Society of Pediatrics Gastroenterologists and Dietician of Uzbekistan was created in July 2008. The founders of the Society are pediatricians who specialize in the diagnosis and treatment of gastrointestinal

diseases in children and matters of nutrition in various diseases of children. The Society collaborates with local, regional and international stakeholders and partners like the Ministry of Health (MOH), Ecological movement of Uzbekistan and WGO.

Activities of the Society:

Administrative

- Acquired legal registration license from the Justice Ministry of Uzbekistan.
- Developed logo and stamp of the Public Society "Pediatrics Gastroenterologists and Dietician" of Uzbekistan.
- Employed secretariat and opened an office for the association.
- Networking and communicating with MOH, local, regional,

international organizations, and universities.

- Periodic reporting of activities to the Internal Audit Commission.
- Currently we have reached 14 members and we are recruiting more.
- Established communication lines with similar organizations in the CIS and Europe.

Purpose and Objectives

- To promote the development of projects and programs aimed at solving problems in the field of gastroenterology and nutrition.
- Promotion of the achievements in the field of medicine gastroenterology and nutrition.
- The provision of scientific and methodological and practical assistance in the field of Pediatric



A meeting of the Society where we discuss the analysis of difficult patients.



A meeting of the Society where we discuss the analysis of difficult patients.

Gastroenterology and Nutrition.

- To develop measures of health and social protection.
- Participate in the development of proposals for improving curricula and teaching programs in medical schools and institutes for advanced doctors in pediatric gastroenterology and child nutrition.
- The establishment and development of international relations in the field of pediatric gastroenterology and dietitian.
- Realization of charities.
- Organization and conduct of socio-cultural, sports and recreation and other public events. Society members are physicians, researchers and teachers of medical schools, doctors in private practice, the organizers of the health system – the leaders, founders of medical organizations. The Society has three branches in Samarkand, Bukhara and Djizak.

Training and Education

For years, members of the public association spent time at more than 50 seminars for practitioners in various regions of the Republic. Members of the Society carry out discussions among general practitioners in distant regions of Uzbekistan and acquaint them with the latest principles in the treatment of acute and persistent diarrhea, celiac disease, and Helicobacter Pylori-infection in children.

Guidelines were also developed on nutrition and drug therapy in children and adults in these regions.

Grant

In 2011, members of the Society won the Social Fund grant under the Parliament of Uzbekistan. The name of the project is “The Prevention of Adverse Effects of the Tajik Aluminum Plant on the Health of Children and Adolescents in the Border Regions of

Uzbekistan”. The Society wrote and published about 500 brochures for the population in the border areas on “Fluoride Poisoning Prevention”, which described the highlights of fluoride intoxication prevention. For the general practitioners in the border areas of the Tajik Aluminum plant, five seminars were organized and 200 guidelines were distributed describing the first symptoms of fluoride poisoning and management of fluorosis.

Health Services and Consultancy

Public Society conducts discussion clubs and open meetings, including international activity in the form of conferences, congresses, seminars, online forums, and organizing exhibitions, etc. At the seminars, along with reports on various issues of pediatric gastroenterology and nutrition, we discuss case reports of patients with rare diseases, atypical presentations of well-known diseases.

Charity

Every year in June, members of the Society organize a festival for children suffering from Celiac Disease. We cooperate with the Society of parents of the children suffering from celiac disease to give them advice on nutrition and gluten-free diets.



The Kyoto Global Consensus Meeting on *H. pylori* Gastritis; Jan 30 – Feb 1, 2014, Kyoto, Japan



Soichiro Miura, MD, PhD

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Co-Chair, GI Working Group of IM-Tag in ICD-11, Revision Steering Committee
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The Kyoto Global Consensus Meeting on *H. pylori* gastritis was recently held Jan 30 – Feb 1, 2014. The meeting was organized by the Japanese Society of Gastroenterology (JSGE) in conjunction with the European Helicobacter Study Group (EHSG) and was endorsed by the Asian Pacific Association of Gastroenterology (APAGE), Healthy Stomach Initiative (HIS) and the Japanese Society of Helicobacter Research (JSHR). Conference Presidents, Dr. Peter Malfertheiner and Dr. Kentaro Sugano, professionally and deliberately conducted the entire conference. There were 13 voting members from North America, South America, Europe, and nine from the Asia-Pacific region, and 24 from Japan.

The consensus concerned the four major areas of discussion which include:

- Classification of Gastritis (in relation to proposal for ICD-11 classification)
- Dyspepsia associated with *H. pylori* infection
- Diagnosis of Gastritis
- Management of Gastritis

Over the past few years, a group of experts in the field have been discussing the ideal design for future classification of GI diseases with a move to revise the ICD-10 to ICD-11. Gastric disorders, especially gastritis and gastric ulcers, will be classified according to the well-known etiology, particularly considering *H. pylori* as an important causative factor. During the conference, the new classification of gastritis in ICD-11 was introduced.

There was a fruitful discussion on how to sub-classify *H. pylori* gastritis in terms of gastric location and severity of gastritis. *H. pylori* gastritis is classified as a distinct pathological condition separate from functional dyspepsia.

The proceeding of this consensus conference on various aspects of *H. pylori* gastritis will soon be published.



Participants of The Kyoto Global Consensus Meeting on *H. pylori* Gastritis.

APAGE: 4th Asian Pacific Single Topic Conference on Functional Gastrointestinal Disorders



Hilda Dina C. Gonzales, MD, MHPEd, FPCP, FPSG, FPSDE

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The Philippine Society of Gastroenterology (PSG), under the auspices of the Asian Pacific Association of Gastroenterology (APAGE), hosted the 4th Asian Pacific Conference on Functional Gastrointestinal Disorders in Taal Vista Hotel, Tagaytay City, Philippines, January 10 – 12, 2014.

A total of 383 delegates attended the APSTC consisting of 26 overseas speakers and 14 foreign delegates. The rest were fellows, diplomates of PSG, as well as fellows in training, residents and students. The local organizing committee came up with interesting topics centered on the theme: Take Action for FGID - Mechanisms, Triggers and Treatments, with valuable inputs from international advisors: Professor Khean-Lee Goh, Professor Kwong-Ming Fock and Professor Gerald Holtmann, and local advisors: Professor Jose Sollano Jr., and Professor Joseph Bocobo.

Professor Robin Spiller set the tone for the conference when he spoke on “What has Changed in IBS Treatment: Theory and Practice”, at a dinner symposium. The opening ceremony showcased the officers

and members of the host society in their traditional national costumes. Establishment of new friends and re-connecting with old ones paved the way for further collaboration between the Filipinos and the international faculty and guests.

The second day of the conference was dedicated to the basic concepts pertaining to FGID. The breakfast symposium on “Serotonin, Gut and

Functional Dyspepsia” was delivered by Professor Hiroto Miwa. Investigation and the role of biomarkers in functional GI disorders were elucidated by Professor Kwong-Ming Fock. The psychosocial model of disease was next discussed by Professor Leticia Ibanez-Guzman. Professor Nicholas Talley, in his State-of-the-Art lecture on the “Pharmacologic Management of Functional GI Disorders”



Opening Ceremony from left to right: Professor Joey Sollano (Manila, Philippines), Professor Kwong-Ming Fock (President, APDWF), Professor Joseph Bocobo (President of the Philippine Society of Gastroenterology), Professor Dina Hilda Gonzales (Organizing Chairperson of the Meeting), Professor KL Goh (President of the APAGE), Professor Kentaro Sugano (Vice-president of the APAGE and President of the JSGE), Professor Gerald Holtmann (Brisbane, Australia).



Faculty and the Organizing committee of the APAGE 4th Asian Pacific Single Topic Conference on Functional Gastrointestinal Disorders.

emphasized the benefit of a therapeutic physician-patient relationship in both functional dyspepsia (FD) and irritable bowel syndrome (IBS) sufferers. He discussed further various novel pharmacologic agents and their mechanisms of action in the treatment of both these disorders. Differences in the microbiota of IBS patients were discussed by Professor Robin Spiller, as well as the implication of dietary influence on the symptoms of IBS. Professor Taku Kobayashi discussed the mystery of gut inflammation in FGID. Conventional and new techniques of evaluating gastric sensorimotor function, as well as controversies in their utility, was comprehensively discussed by Professor Daphne Ang in the “Assessment of Disordered Gut Function: Current Standards and Other Innovations”.

Professor Nimish Vakil elegantly discussed challenges and solutions to refractory GERD, in the lunch symposium. Professor Suck Chei Choi,

also discussed etiology and treatment options for atypical GERD. The multifactorial pathogenesis of NERD, often refractory to proton pump inhibitor therapy was discussed by Professor Hiroto Miwa, who emphasized optimizing treatment efficacy of PPI and combination treatment with prokinetics or psychological treatment as well as central and peripheral sensitization. A more deliberate definition of functional dyspepsia in the development of a Rome IV criteria was proposed by Professor Kentaro Sugano, as he eloquently stated that in the real world setting, there are wide variations in the diagnostic work up among the Asian Pacific countries. Professor Nimish Vakil discussed recent international consensus guidelines as a basis for recommendations on Barrett’s esophagus. Diffuse Esophageal Spasm was discussed by Professor Varocha Mahachai. The sunset symposium on the role of specialized amino acids in patient’s early recovery was delivered

by Professor Jesus Fernando Inciong. The fellowship night that ensued was a cultural and engaging social night to remember, as it fostered closer ties between guests and hosts.

On the last day, the State-of-the-Art lecture was on the prevalence, symptom spectrum and management of constipation in Asia, delivered by Professor Minhu Chen, followed by management of solitary rectal ulcer syndrome, by Professor Sutep Gonlachanvit, and constipation in adolescents by Professor Shaman Rajindranith. The rest of the scientific sessions dealt with the following: “Gut Dysbiosis and IBS” by Professor Mark Morrison, who also talked on the “Impact of Dietary Pattern, Functional Foods, FODMAP, and Digestive Enzymes on the Gut Microbiota”, and “IBS and IBD: Association or Dissociation” by Professor Choon-Jin Ooi. “Approaches to the Management of IBS using Prebiotics, Probiotics and Antibiotics” by Professor Aamir Ghafoor Khan, “Psychotherapy in IBS” by Professor Constantine Della, and a lecture by Professor Gerald Holtmann, on “Obesity being a Functional Disorder of the Gut”. Three simultaneous workshops, attended by fellows in training as well as their mentors on Quality of Life in FGID, facilitated by Professor Sanjiv Mahadeva and Professor Chirk-Jen Ng, Capsule Endoscopy by Professor Wai Keung Leung and High Resolution Manometry/ pH Impedance by Professor Justin Wu, concluded the conference.





Educational Programs

Providing high quality educational opportunities for all levels of resources.



WGO's Newest Educational Offering is Now Available in Multiple Languages!

The French, German, Italian and Spanish versions of WGO's newest educational program are ready for viewing!

Irritable Bowel Syndrome (IBS): What is it, what causes it and can I do anything about it? A Web-Based Educational Program for the General Public

This webcast, which was developed from the [World Digestive Health Day 2012 Campaign](#) "From Heartburn to Constipation - Common GI Symptoms in the Community: Impact and Interpretation", will target those common symptoms most associated with irritable bowel syndrome (IBS) and will focus, in particular, on an approach to educate the general public on issues related to this condition. It is led by Professors Eamonn Quigley, USA, WGO Foundation Chair, Richard Hunt, UK, WGO Foundation Vice Chair, Pali Hungin, UK, and Anton Emmanuel, UK.

The webcast is available as a full program, as well as individual segments, so that you may choose which topics you would like to view. Segment 1 focuses on "What is IBS?" and "How to communicate symptoms to help the doctor make the right diagnosis." Here the focus is on the various symptoms that may be experienced by the IBS sufferer and the various definitions of IBS used in clinical practice and in research are reviewed. Strategies that facilitate the best interaction between the sufferer and their doctor are discussed. In Segment 2 you will learn about "Progress in IBS" and "Could it be something else?" The various factors that might contribute to the development of symptoms are reviewed and the panel addresses what is often a major concern for the sufferer and their doctor: the fear of missing other diagnoses. Segment 3 will look at "What can I do to deal with my symptoms?" and "How about diet and dietary supplements?" The role of diet in IBS is a "hot" topic at present and the various ways that constituents of the diet might relate to symptoms are evaluated. And finally in Segment 4 "Managing IBS" and "Living with IBS" is discussed. Here there is good news for IBS sufferers both in terms of new, effective treatments and ongoing research for new approaches to managing IBS.

We hope that you will share this information with your colleagues, patients, followers on social media, and anyone else who might benefit from this important information. We thank you for your support of this program!

[Click Here to Begin
Viewing the Webcast!](#)



This webcast was created thanks to an unrestricted educational grant from

Canadian Digestive Diseases Week 2014: A Resounding Success!



Derek M. McKay, PhD

Professor of Physiology & Biophysics
University of Calgary
President, Canadian Association of Gastroenterology
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Past President, Canadian Association of Gastroenterology
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Canadian Digestive Diseases Week (CDDW) is the premier activity of the Canadian Association of Gastroenterology (CAG), and in combination with the Canadian Association for the Study of the Liver (CASL), caters to the education and research needs of the approximate 1,200 CAG members, CASL membership, and the Canadian “gastroenterologist” in general. This year, the 19th CDDW was held in Toronto (February 8-11, 2014) with a record number of 1,236 delegates in attendance. Recognizing the critical role that trainees play in keeping an organization vibrant, and the need to mentor and educate young clinicians and researchers, the main CDDW program is preceded by the Gastroenterology Residents in Training (GRIT) Program (66 residents), the Scholars Program (33 medical students) and the Research Topics in GI Disease Program (35 basic scientist clinician trainees). These programs are always fully subscribed and the investment in them by the volunteer efforts of CAG members and invited speakers to the core CDDW program pays dividends: we

consistently track the movement of many of these trainees into full time clinical practice or careers as clinician and basic scientists in Canada, advancing knowledge in the field of gastroenterology and hepatology that will eventually improve peoples lives. The CAG takes great pride in its programs to nurture the next generation of leaders in Canadian gastroenterology and to provide opportunities for them to become involved with CAG in leadership positions.

The quality of CDDW 2014 was simply superb, as gauged by any yardstick: clinical content (e.g. Quality IBD care, GI bleeding) and ‘hot off the press’ critique of new data/published articles; leading edge basic research as it relates to (i) the microbiome, and (ii) aging in GI disease, (iii) long term consequence of inflammation, and (iv) innovative methods to study GI disease; faculty and trainees alike delivered quality presentations. Over a three-and-a-half day period, CDDW delivered 10 key symposia, eight short paper sessions, five breakfast sessions and 25 small group sessions; in all 150 faculty members

presented in 70 sessions to clinical gastroenterologists (university- and community-based), clinician scientists and basic scientists. Competing sessions were minimal and the program flowed seamlessly, and most notably the one-day post-graduate course blended beautifully gastroenterology and hepatology into three sessions on “gastroenterology emergencies”, “ward rounds: management of common inpatient problems” and “the returned traveler: GI and liver consequences of escaping the Canadian winter”. In all, CDDW provided 85 hours of accredited educational content for the physician.

In addition to these activities, there were 300 posters in two poster sessions, addresses from CAG award winners for excellence in education (Dr. Nicola Jones for Education Excellence Award, Dr. Maitreyi Raman for Young Educator Award, and Dr. Christopher Andrews for Visiting Clinical Professorship Award) and research (Dr. Wallace MacNaughton for Research Excellence Award, Dr. Aleixo Muise for Young Investigator Award, and Dr. Paul Moayyedi for Visiting Research Professorship Award) along with excellent attendance at the recently introduced Learning Center.



Dr. Stephen Hanauer delivers the 49th annual McKenna Memorial Lecture.

This year's recipient of The Richard D. McKenna Memorial Lecture (Dr. McKenna was a founding member and the first President of CAG (1961-1962)), the association's highest honor, was Dr. Stephen Hanauer (Northwestern University, Chicago). Dr. Hanauer, a world leader in clinical IBD research, delivered a state-of-the-art lecture on "Personalizing Evidence Based Therapy in IBD".

This year, for the first time, the McKenna Lecture was followed by the awarding of ten CAG Fellows (CAGF) in recognition of their long-standing and meritorious service to the CAG and Canadian gastroenterology: Drs. Robert Bailey (University of Alberta) Stephen Collins (McMaster University), Carlo Fallone (McGill University), Gary Levy (University of Toronto), Richard Hunt (McMaster University), Jan Irvine (University of Toronto), Desmond Leddin (Dalhousie University), Connie Switzer (University of Edmonton), Philip Sherman (University of Toronto) and John Wallace (McMaster University). Congratulations to all the first inductees of CAGFs – your efforts have contributed in no small part to the success of the CAG.

Can a conference really be considered successful without encouraging collaborations, discussions and social interaction? It was gratifying for the conference organizers (the CAG and CASL Implementation Committee) to note the many, and often animated, conversations over the catered coffee breaks and lunches, during the McKenna Lecture Reception, the oversubscribed poster sessions and the participation of 240 delegates (room capacity) at the closing CDDW Gala on the theme of a "Taste of Toronto" – a very cosmopolitan city indeed. It was a fun evening for all!

In closing, there is no doubt that CDDW 2014 was an outstanding success and we gratefully acknowl-



Dr. Dan Sadowski (Past President, CAG) presents Dr. Robert J. Bailey with the CAG Fellow Award.

edge that this would be impossible without the herculean efforts of the CAG office staff and the invaluable participation of our Foundation, the Canadian Digestive Health Foundation (CDHF), and others such as our longstanding partner, Crohn's and Colitis Canada (CCC). We appreciate your commitment to CAG and without which this meeting would be impossible and the success of many CAG programs severely diminished. Thank-you and we look forward to continuing this partnership.

Mark your calendars for CDDW 2015 in Banff, Alberta February 26 – March 1, 2015.



Getting Underway: Gastroenterology in The Gambia



Des Leddin, MD

Professor of Gastroenterology
Victoria General Hospital
Halifax, NS, Canada



John Igoe, MD, FRCPC

PGY-5 Gastroenterology Chief Resident
Dalhousie University
Halifax, NS, Canada

In January 2014 a meeting was held in The Gambia with a focus on the growing Gastroenterology expertise and resources in West Africa. The meeting was a collaboration between the WGO, the Government of The Gambia, the Medical Research Council of the UK, Horizons Trust UK, and KARL STORZ.

The Gambia is the smallest country in Africa. It lies on the north and south banks of the Gambia River as it runs to the Atlantic. It is embedded in Senegal, is English speaking, and tropical. It has a nominal per capita income of about \$500 per annum and a population of nearly two million of whom about one-third try to get by on not much more than a dollar a day.

We wanted to get a sense of local resources, and burden of disease, and to determine whether it will be possible to locate a WGO Training Center in this part of West Africa. We also wished to bring together a global team who may work with our colleagues in The Gambia to carry the project forward, to meet regional GI health care providers, to provide some

patient care, and deliver an educational event. Most of all we wished to demonstrate that endoscopy and GI training could be carried out in the region. The Gambia is fortunate in having very capable physicians, and a supportive government, but facilities are sparse and endoscopy services very limited. Proof that The Gambia could host a high caliber medical meeting

would be an important milestone on the road to growing the local resource.

The Minister of Health, the Honorable Omar Sey, and the Director of the MRC in The Gambia, Dr. Umberto D'Alessandro, opened the meeting. The target audience was physicians and nurses with an interest, or expertise in, GI from the west of Africa. This area includes Senegal, Mali, Mauritania, Nigeria, Ghana and The Gambia. The local physicians identified patients whose history and physical findings were presented. The audience was then asked to make a clinical diagnosis. Endoscopy was performed with live video feed to the classroom. The findings were discussed and teaching was supplemented by prepared 10-minute talks, which addressed the findings. It proved an excellent format with instant feedback on clinical lessons.

The meeting was chaired by Desmond Leddin (Canada). Faculty included Sharmila Arandasapthy (USA),



A fishing boat being launched in Fajara, The Gambia.

Brijen Shah (USA), Ramou Njie (UK and Gambia), Maud Lemoine (UK), Andrew Veitch (British Society of Gastroenterology, UK), John Igoe (Canada), Suzanne Anderson (UK and MRC, The Gambia), Stephanie Bush-Goddard (USA), Damon Bizos (South Africa) and Nagi Checrici (Karl Storz, Beirut). Our Karl Storz colleagues based in Beirut, local nursing and house staff, ably supported us. The meeting was hosted by Professor James N'Dow (UK and The Gambia) of Horizons Trust UK and it was held in the Medical Research Council (UK) facility in The Gambia. We are most grateful to the director Dr. Umberto D'Alessandro for his support and for allowing us to run the meeting at the MRC facility.

About 40 patients underwent endoscopy. Varices were common which given the background Hepatitis B prevalence of 10% is not surprising. What was a surprise was a high prevalence of PPI refractory non-ulcer dyspepsia but this may simply represent patient selection.

For those of us from outside Africa the learning curve was steep. Few of our clinical algorithms worked, primarily due to resource constraints. For example, in treating esophageal varices we brought in scopes and ligators but there were limited supplies of sedation, no sclerotherapy needles or sclerosant, no tissue glue, no plasma, no octreotide, no Sengstaken tubes, no ICU and no transplantation. The blood bank was a phone call to the local army barracks for volunteers. The normal safety nets with which we are used to performing were not there. An enduring feeling after the meeting was one of admiration for our colleagues who provide care in such difficult circumstances, and a little less complaining about our own western health systems.

Although liver disease is common there is little banding being performed in the region, and we are organizing

a follow up course in The Gambia in January 2015 with a focus on the treatment of end stage liver disease. Given that end stage liver disease is common in The Gambia and that transplantation is not available it is hoped that we can prolong life by treating some of the complications, which are not necessarily fatal, such as variceal hemorrhage.

The mission of the WGO Training Centers is to help local physicians deliver training to the future generations of providers. The WGO does not come in from outside and deliver care but focuses on teaching the teachers. We help local groups develop expertise and resources. There are very good local physicians in The Gambia but the physical resources are stretched. However the Horizons UK Trust hopes to build a healthcare facility in The Gambia, which will deliver private and public health care and support the efforts of the Gambian government.

The Gambia has a lot of positives, which make it an attractive site for a training hub. The country is safe, the people friendly and the government is supportive, as is the Gambian diaspora. Air connections to Europe and North America are excellent and there are connections to airports within Africa. Importantly there is a strong research operation headed by the MRC, research on health care and outcomes in West Africa in GI is lacking, and growing this is very important.

A question, which should be asked, is whether it is reasonable to work towards development of expensive technologies like endoscopy when more basic needs, such as public health measures, need support and may have more impact. The answer is an unequivocal yes. We saw a 12-year-old boy with an acute GI bleed secondary to duodenal ulceration when we were there. The outcome may have been different without endoscopy and

treatment. A country has to deliver basic comprehensive care if it is to maintain a healthy population, attract and retain investment, and grow its economy. For example The Gambia has a significant tourist industry with the UK, which is the same time zone. In order to grow this, the health services, including the ability to deal with a bleed, or a food bolus need to be in place. But it is not primarily about growing the economy. The local population should always be the focus and can be helped both by growing direct care and by growing the national economy.

There is a lot to be done. There is a need for endoscopy nurse training, for equipment at an affordable price, for training of junior physicians and much more. However, the enterprise is launched and we have shown that with the help of an international faculty and their local colleagues, the project can progress. In terms of what you as a physician, or nurse, or someone who is interested, the best option would be to connect with your national GI society and advocate for support of our peers in the developing world. To learn more about the work of the Horizons Trust, visit <http://www.thehorizonsclinic.com/>



WGO Global Guidelines

In his monthly President’s Letter, Professor James Toouli, WGO President, highlighted one of the jewels of WGO activities; the [Global Guidelines and Cascades](#). In putting his letter together he asked the current chair of the Guidelines Committee, Professor Greger Lindberg, to help by providing the details. His contribution was so good that it was used as written. Professor Toouli thanks Greger and wishes to acknowledge the wonderful work done by him and his team to the activities of WGO.

WGO’s medical practice guideline program is a truly global activity. It all started with a meeting in the Academic Medical Centre (AMC) in The Netherlands in the late nineties. Drs. Justus Krabshuis met the then incoming president of the WGO, Professor GNJ Tytgat, who had a vision...the WGO should and could help Member Societies and colleagues everywhere with producing state of the art guidelines in gastroenterology, endoscopy and hepatology. These

guidelines would have to be relevant not just in the ‘West’ but they should be useful everywhere, especially in the more challenged low and middle income (LMIC) countries. Guido Tytgat pushed and encouraged the project and with help from leading topic experts worldwide, a number of guidelines were produced.

Relevance was not the only new aspect. All guidelines were available for free and translated, often by volunteers, in French, Spanish, Mandarin, Portuguese and Russian. Within a few years we saw that more than half of the guideline downloads were in ‘foreign’ languages, not in English. We knew then we were on the right track.

In September of last year, Greger Lindberg had taken over as Chairman for the Global Guidelines Committee after Michael Fried. At the same time Anton LeMair has taken over from Justus Krabshuis as Manager of WGO Guideline Development. Over the years this committee has been very productive and currently has 24



A Resource Sensitive Solution

global guidelines that can be downloaded from [WGO’s website](#) in six different languages. In 2014 we hope to update Hepatitis B, Dysphagia, Probiotics, and Needle Stick Injury. Timely updates are critical and we focus on guidelines with cascades which are frequently downloaded. The use of WGO Global Guidelines for teaching purposes may need more attention. One possible way to go would be to develop teaching modules for selected guidelines. We will certainly also create new Global Guidelines but numbers will be smaller in the future.

The WGO Guideline Committee aims for a truly global reach. This is achieved by promotion through local Member Societies, translation into six languages, and, above all, the unique resource sensitive cascades for diagnosis and management. The philosophy is to produce easy to read and understand, compact guidelines, which allow for a straightforward communication of practice statements and sharing of knowledge, focusing on clinical implementation.

Effectiveness is very difficult to measure and since the penetrating and almost paradigm-changing ‘Random Reflections on Effectiveness and Efficiency’ of Archie Cochrane (the mould breaking Scottish epidemiologist whose work led to the setting up of the Cochrane Collaboration) we know we need evidence and we

Today there is impressive guideline coverage of key areas in the field

| Guidelines & Cascades | Guidelines |
|---|---|
| 1. Acute diarrhea | 1. Asymptomatic Gallstone Disease |
| 2. Celiac Disease | 2. Diverticular Disease |
| 3. Colorectal cancer screening | 3. Dysphagia |
| 4. Common GI Symptoms | 4. Management of acute viral hepatitis |
| 5. Constipation | 5. Management of Strongyloidiasis |
| 6. Endoscope Disinfection | 6. Needle Stick Injury and Accidental Exposure to Blood |
| 7. Esophageal Varices | 7. Osteoporosis |
| 8. Helicobacter Pylori | 8. Probiotics and Prebiotics |
| 9. Hepatitis B | |
| 10. Hepatitis C | |
| 11. Hepatocellular carcinoma | |
| 12. Inflammatory bowel disease | |
| 13. Irritable bowel syndrome | |
| 14. NAFLD-NASH | |
| 15. Obesity | |
| 16. Radiation protection in the endoscopy suite | |

know this needs to be based on proper study. From the beginning, Professor Tytgat was well aware of the vital role evidence plays but as a world organization we needed to incorporate not just the gold standard but also we would need to take account of resources available.

The idea of Cascades was born. Later, during the chairmanship of Professor Fried from Zurich, these ideas were formalized into the concept of ‘Cascades’ and it was Michael Fried’s wise tenure of the Guidelines Committee chairmanship that saw guideline production flourish. His vision on Cascades guided the guideline production program for a full eight years before handing over to Professor Lindberg late 2013.

In this period the guideline production flourished ...perhaps even too much. As research quickens and more and more results filter down from the bench to the bedside it is vital guidelines are kept up to date. When Professor Lindberg took over he started a major update program, which will ensure all guidelines will be up-to-date and as evidence-based as possible.

Through the Cascades we deliver more than the ‘gold standard’ and compensate for the limitations of strict evidence-based work. We argue that the addition of Cascades to guidelines will increase their impact in large parts of the world. By so doing, we hope to add a new dimension to the ‘knowledge into action’ debate.

A Cascade is a selection of two or more hierarchical diagnostic or therapeutic options, based on proven medical procedures, methods, tools or products for the same disease, condition or diagnosis, aiming to achieve the same outcome and ranked by available resources. Matching options for diagnosis and treatment to available resources can save lives. While the optimal strategy, defined through

an evidence-based approach, should always be the goal, one must be aware of the resource limitations that confront our colleagues in certain parts of the world and we should endeavor to work with them in the guideline development process to develop strategies that are clinically sound yet economically feasible and acceptable to their populace.

The Guideline Committee Chair and members form the basis for the guideline program. For each guideline in production, we work with Review Teams with invited experts representing all the regions that make up the diversity among the membership of the society and its target readership. Team members are recruited on a voluntary basis and authorship requires active participation by each of them. For each guideline, a guideline chair heads the Review Team and together they play a crucial role in evaluating the evidence and writing the guideline.

Our approach warrants a relatively short throughput time and cost-effective process. During the guideline production there is no need to meet and everything is done to make best use of experts’ knowledge and time. We propose a balance between

Graded Evidence



evidence and medical practice and, if possible and applicable, resource-based guidelines to take care of access, financial, and technical differences within the user’s communities. The guideline program results in ‘living documents’ that will impact medical practice and increase WGO’s visibility and value, while offering author benefits to the Review Team members and chairs.

WGO Guidelines are constantly reviewed based on a system of monthly literature alerts for each title.

The WGO Guideline library is accompanied by a set of information services to help keep users up to date with the literature and new evidence.

Under the expert guidance of Professors Elewaut and Fevery, WGO’s ‘Graded Evidence’ system is built to help Member Societies of gastroenterology and all those interested in the practice and research of gastroenter-

Graded Evidence Access

| Guidelines | # Abstracts |
|--|-------------|
| Acute Diarrhea in Adults Link to guideline document | |
| - Meta-analyses, Systematic reviews, Practice guidelines | 25 |
| - Clinical Trials *RCT's only after 2012 | 15 |
| Asymptomatic Gallstone Disease Link to guideline document | |
| - Meta-analyses, Systematic reviews, Practice guidelines | 3 |
| - Clinical Trials *RCT's only after 2012 | 9 |
| Celiac Disease Link to guideline document | |
| - Meta-analyses, Systematic reviews, Practice guidelines | 38 |
| - Clinical Trials *RCT's only after 2012 | 28 |
| Colectoral Cancer Screening and Surveillance Link to guideline document | |
| - Meta-analyses, Systematic reviews, Practice guidelines | 130 |
| - Clinical Trials *RCT's only after 2012 | 28 |

Ask a Librarian



ology keep track of the literature in topics covered by WGO Guidelines. WGO's Graded Evidence system bridges the gap between new evidence appearing after publication of the guideline and the guideline's update.

The WGO Ask a Librarian section offers a unique service to members of Member Societies of gastroenterology who do not have easy access to high quality clinical and research information. Professional medical librarians man the 'Ask a Librarian' desk and provide support with searching all relevant research clinical literature

databases, thus helping to find a simple citation or to perform complex evidence-based gastroenterology literature searches.

Thirdly, the 'Virtual Room of Gastroenterology' was developed by Professor Spinelli from Argentina and is based on an easy tabular interface with captured PubMed search strategies. The system provides real time access to citations and selected full text for pre-defined medically relevant sub topics for all main gastroenterology fields.

The future for clinical guidelines is bright. More and more evidence will become available, also from LMIC countries, and diagnostic and treatment options will increasingly be able to take account of available resources and epidemiological data.

Increasingly, Member Societies

The Virtual Room of Gastroenterology



can comment on and influence the relevance of WGO clinical guidelines specifically for their situation and so WGO will be able to 'customize' its guidelines for different populations. The more we differentiate the more we fulfill our global mission...and so Member Societies of gastroenterology and WGO outreach meet to make GI care more effective, efficient and relevant locally.

Virtual library on Hepatocellular Carcinoma

| Hepatocellular Carcinoma | Abstracts published in the last 5 years | Free full text published in the last 5 years | Reviews published in the last 5 years |
|-----------------------------|---|--|---------------------------------------|
| Classification | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Complications | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Diagnosis | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Economics | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Epidemiology | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Ethnology | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Etiology | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Genetics | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Mortality | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Nursing | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Pathology | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Prevention and control | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Radiotherapy | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Surgery | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Therapy | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Transplantation | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Virology | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Evidence | | | |
| Meta-Analysis | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Randomized Controlled Trial | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Practice Guideline | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

WGO Calendar of Events

WGO-RELATED MEETINGS AND TRAIN THE TRAINERS WORKSHOPS

WGO Train the Trainers Workshop

When: August 31-September 3, 2014
Location: Cape Town, South Africa
Organizers: South African Gastroenterological Society and World Gastroenterology Organisation
Email: ttt@worldgastroenterology.org
Website: <http://www.worldgastroenterology.org/train-the-trainers-future-workshops.html>

WGO Train the Trainers Workshop

When: April 13-16, 2015
Location: Taipei, Taiwan
Organizers: The Gastroenterological Society of Taiwan and World Gastroenterology Organisation
Email: ttt@worldgastroenterology.org
Website: <http://www.worldgastroenterology.org/train-the-trainers-future-workshops.html>

Gastro 2015 AGW-WGO International Congress

When: September 28-October 2, 2015
Location: Brisbane, Queensland, Australia
Organizers: Gastroenterological Society of Australia and World Gastroenterology Organisation
Email: info@worldgastroenterology.org

Gastro 2016 EGHS-WGO International Congress

When: Dates to be announced
Location: Abu Dhabi, United Arab Emirates
Organizers: Emirates Gastroenterology & Hepatology Society and World Gastroenterology Organisation
Email: info@worldgastroenterology.org

Gastro 2017 ACG-WGO World Congress of Gastroenterology

When: October 13-18, 2017
Location: Orlando, Florida, USA
Organizers: American College of Gastroenterology and World Gastroenterology Organisation
Email: info@worldgastroenterology.org

CALENDAR OF EVENTS

AUGUST 2014

GUT 2014 Annual Scientific Congress of the Malaysian Society of Gastroenterology and Hepatology

When: August 22-24, 2014
Location: Shangri-La Hotel, Kuala Lumpur, Malaysia
Organizer: Malaysian Society of Gastroenterology and Hepatology
Email: secretariat@msggh.org.my
Website: <http://www.msggh.org.my>

SEPTEMBER 2014

XXVI ISUCRS BIENNIAL CONGRESS 2014

When: September 4-7, 2014
Location: Cape Town, South Africa
Organizers: International Society of University Colon and Rectal Surgeons in association with the South African Gastroenterological Society, South African Society of Endoscopic Surgeons, South African Colorectal Society, South African Stomatherapy Association and the South African Gastrointestinal Nurses Society
Telephone: +27 41 374 5654
Fax: +27 41 373 2042
Email: isucrs2014@easternsun.co.za
Website: <http://www.isucrs2014.co.za/>

8th ILCA Annual Conference

When: September 5-7, 2014
Location: Hotel Granvia Kyoto
Address: JR Kyoto Station, Karasuma Chuo-guchi, Shiokoji-sagru Karasumadori, Shimogyo-ku, Kyoto 600-8216, Japan
Organizer: International Liver Cancer Association (ILCA)
Telephone: +32 2 789 2345
Fax: +32 2 743 1550
Email: info@ilca-online.org
Website: <http://www.ilca2014.org>

New Advances in Inflammatory Bowel Disease

When: September 6-7, 2014
Location: Hilton San Diego Resort, San Diego, California, USA
Organizer: Scripps Conference Services & CME
Website: <http://www.scripps.org/events/new-advances-in-inflammatory-bowel-disease-september-6-2014>

Annual Meeting 2014

When: September 11-12, 2014
Location: Congress Center, Interlaken, Switzerland
Organizer: Swiss Society of Gastroenterology
Telephone: +41 31 332 4110
Email: office@sggsg.ch
Website: <http://www.sgg-sgvc-congress.ch>

XXIII Congress of the Latin American Association for the Study of the Liver

When: September 11-13, 2014
Location: Cancun, Mexico
Organizers: Asociación Latinamericana para el Estudio del Hígado, Asociación Mexicana De Hepatología
Email: Aleh2014@kenes.com
Website: <http://www.aleh2014.com>

Prague Hepatology Meeting 2014

When: September 11-13, 2014
Location: Karolinum – Charles University Prague, Prague, Czech Republic
Organizer: Czech Society of Hepatology
Email: office@congressprague.cz
Website: <http://www.congressprague.cz/kongresy/phm2014.html>

The 2nd World Congress on Controversies in Gastroenterology (CIGI)

When: September 12-14, 2014
Location: Xi'an, China
Organizer: ComtecMed
Email: cigi@comtecmed.com
Website: <http://www.comtecmed.com/cigi/2014/>

XVI Congress of the Polish Society of Gastroenterology

When: September 24-27, 2014
Location: Wrocław, Poland
Organizer: Polish Society of Gastroenterology
Website: <http://www.ptg-e.org.pl>

OCTOBER 2014**2014 Taiwan Digestive Disease Week, TDDW**

When: October 3-5, 2014
Location: Kaohsiung Exhibition Center, Kaohsiung, Taiwan
Organizers: The Gastroenterological Society of Taiwan (GEST), The Digestive Endoscopy Society of Taiwan (DEST), Taiwan Association for the Study of the Liver (TASL), Taiwan Surgical Society of Gastroenterology (TSSG), Taiwan Society of Pediatric Gastroenterology, Hepatology and Nutrition (TSPGHAN), Taiwan Pancreas Society (TPS), Taiwan Liver Cancer Association (TLCA), Taiwan Society of Coloproctology (TSC), The Chinese Oncology Society (COS), Taiwan Association of Medical Screening (TAMS), Taiwan Association for the Study of Small Intestinal Diseases (TASID)
E-mail: service@tddw.org
Website: <http://www.tddw.org/hum/index.asp>

Pan-American Week of GI Diseases (SPED)

When: October 6-9, 2014
Location: Hilton Buenos Aires
Address: Av. Macacha Guemes 351, Buenos Aires, Argentina
Organizers: Inter-American Gastroenterological Association (AIGE), Federación Argentina De Gastroenterología (FAGE), Society of American Gastrointestinal and Endoscopic Surgeons (SAGES), Interamerican Society of Digestive Endoscopy (SIED), and The Argentina Federation of Digestive Endoscopy (FAAED)
Website: <http://www.gastro2014.com/ingles/index.php>

XX Russian Gastroenterological Week

When: October 6-8, 2014
Location: RANEP
Address: Prospect Vernadskogo, 82 Moscow, Russia 119571
Organizer: Russian Gastroenterological Association
Telephone: +7 926 528 86 48
Fax: +7 499 248 36 10
Email: gastro@orc.ru
Website: <http://www.gastro.ru>

9th PanArab Congress of Gastroenterology

When: October 9-11, 2014
Location: Sheraton Tunis Hotel, Tunis
Organizers: The PanArab Association of Gastroenterology, World Gastroenterology Organisation and World Endoscopy Organization

ACG 2014 Annual Scientific Meeting and Postgraduate Course

When: October 17-22, 2014
Location: Pennsylvania Convention Center
Address: 1101 Arch St, Philadelphia, Pennsylvania, USA
Organizer: American College of Gastroenterology (ACG)
Website: <http://www.gi.org>

United European Gastroenterology Week (UEGW)

When: October 18-22, 2014
Location: Vienna, Austria
Organizer: United European Gastroenterology (UEG)
Email: office@ueg.eu
Website: <https://www.ueg.eu/week/>

Australian Gastroenterology Week 2014

When: October 22-24, 2014
Location: Gold Coast Convention and Exhibition Centre
Address: 2684-2690 Gold Coast Hwy, Broadbeach, Queensland, 4218, Australia
Organizer: Gastroenterological Society of Australia
Telephone: +613 9001 0279
Email: gesa@gesa.org.au
Website: <http://www.agw.org.au/>

JDDW 2014 – Japan Digestive Disease Week 2014

When: October 23-26, 2014
Location: Kobe, Japan
Organizer: Organization of JDDW
Email: kobe2014@jddw.jp
Website: <http://www.jddw.jp/jddw2014/en/index.html>

The 32nd World Congress of Internal Medicine (WCIM 2014)

When: October 24-28, 2014
Location: COEX World Trade Center
Address: 159 Samseong-dong, Gangnam-gu, Seoul, Korea
Organizer: The International Society of Internal Medicine (ISIM)
E-mail: wcim2014@intercom.co.kr
Website: <http://www.wcim2014.org>

NOVEMBER 2014**Iranian Congress of Gastroenterology and Hepatology**

When: November 18-21, 2014
Location: Congress Center, Children Medical Center Hospital
Address: Keshavarz Bulvar, Gharib Ave. Tehran, Iran
Organizer: Iranian Association of Gastroenterology and Hepatology
Telephone: +98 21 8833 5061 3
Fax: +98 21 8833 5061 3
Email: icgh@iagh.org
Website: <http://www.iaghcongress.org/>

APDW 2014 Bali

When: November 22-25, 2014
Location: Bali Nusa Dua Convention Center
Address: Kawasan Pariwisata Nusa Dua Lot NW/1, Nusa dua, Bali, Indonesia
Organizers: Indonesian Society of Gastroenterology, Indonesian Society of Digestive Endoscopy, Indonesian Society of Digestive Surgeons, and Indonesian Association for the Study of the Liver
Telephone: +65 63464402
Fax: +65 63464403
Email: Secretariat@apdw2014.org
Website: <http://www.apdw2014.org/>

2014 Annual Scientific Meeting

When: November 26-28, 2014
Location: SKYCITY Auckland Convention Centre
Address: 88 Federal Street, Auckland, New Zealand
Organizers: New Zealand Society of Gastroenterology Inc and New Zealand Nurses Organisation: Gastroenterology Nurses Section
Email: Anna.Pears@racp.org.nz
Website: <http://www.nzsg.org.nz/cms2/meetings/new-zealand/>

DECEMBER 2014**7th Hepatology and Gastroenterology Post Graduate Course**

When: December 11-12, 2014
Location: Conrad Hotel, Cairo, Egypt
Course Director: Prof. Ibrahim Mostafa
Email: info@egyptgastrohep.com
Website: <http://www.egyptgastrohep.com/post-graduate-course/>

FEBRUARY 2015**Canadian Digestive Diseases Week**

When: February 27–March 2, 2015
Address: 405 Spray Avenue, Banff, Alberta, Canada
Organizer: Canadian Association of Gastroenterology
Telephone: 905 829 2504
Fax: 905 829 0242
Email: CDDW@cag-acg.org
Website: <http://www.cag-acg.org>

APRIL 2015**31st Annual Congress**

When: April 2-5, 2015
Location: Serina Hotel, Islamabad, Pakistan
Organizer: Pakistan Society of Gastroenterology & GI Endoscopy
Website: <http://www.psg.org.pk/>

MAY 2015**Digestive Diseases Week (DDW)**

When: May 16-19, 2015
Location: Walter E. Washington Convention Center
Address: 801 Mt. Vernon Place NW, Washington, DC, USA
Organizers: American Association for the Study of Liver Diseases (AASLD), American Gastroenterological Association (AGA), American Society for Gastrointestinal Endoscopy (ASGE), and Society for Surgery of the Alimentary Tract (SSAT)
Telephone: 301 272 0022
Fax: 301 654 3978
Email: jmerryman@gastro.org
Website: <http://www.ddw.org>

OCTOBER 2015**JDDW 2015 – Japan Digestive Disease Week 2015**

When: October 8-11, 2015
Location: Tokyo, Japan
Organizer: Organization of JDDW
Website: <http://www.jddw.jp/jddw2015/en/index.html>

DECEMBER 2015**APDW 2015**

When: December 3-6, 2015
Location: Taipei International Convention Center
Address: No. 1, Section 5, Xinyi Rd, Taipei, Taiwan
Organizer: Asian Pacific Association of Gastroenterology (APAGE)
Website: <http://www.apage.org/index.html>

NOVEMBER 2016**JDDW 2016 – Japan Digestive Disease Week 2016**

When: November 3-6, 2016
Location: Kobe, Japan
Organizer: Organization of JDDW
Website: <http://www.jddw.jp/english/index.html>

OCTOBER 2017**JDDW 2017 – Japan Digestive Disease Week 2017**

When: October 12-15, 2017
Location: Fukuoka, Japan
Organizer: Organization of JDDW
Website: <http://www.jddw.jp/english/index.html>

Events marked in green represent WGO Member Society events. For a full listing of events, please visit <http://www.worldgastroenterology.org/major-meetings.html>

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