



FACT

FICTION

SORTING OUT COMMON  
MISCONCEPTIONS ABOUT  
ULCERATIVE COLITIS  
TO IMPROVE PATIENT CARE

**Friday, January 19, 2018**

6:00 AM – 7:30 AM

**Aria Hotel, Pinyon 7-8**

Las Vegas, NV

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**David T. Rubin, MD, FACG,  
AGAF, FACP, FASGE**

University of Chicago Medicine  
Chicago, IL

**William J. Sandborn, MD**

University of California San Diego and  
UC San Diego Health System  
La Jolla, CA

# David T. Rubin, MD, FACG, AGAF, FACP, FASGE

## Disclosures



- **Research/Grants:** AbbVie Inc.; Genentech, Inc./Roche; Janssen Pharmaceuticals, Inc.; Prometheus Laboratories Inc.; Takeda Pharmaceuticals U.S.A., Inc.; UCB, Inc.
- **Consultant:** AbbVie Inc.; AbGenomics; Allergan; Amgen Inc.; Celgene Corporation; Forward Pharma; Genentech, Inc./Roche; Janssen Pharmaceuticals, Inc.; Merck & Co., Inc.; Miraca Life Sciences, Inc.; Napo Pharmaceuticals, Inc.; Pfizer Inc.; Salix Pharmaceuticals; Samsung Bioepsis; Sandoz; Shire; Takeda Pharmaceuticals U.S.A., Inc.; TARGET PharmaSolutions, Inc.

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# Learning Objective 1

Recognize the complex nature of UC that requires risk stratification to drive treatment decisions.



## Learning Objective 2

Integrate a steroid-sparing management strategy into treatment planning to minimize long-term steroid dependence and associated side effects.





## Learning Objective 3

In patients with moderate to severe UC, initiate early, top-down treatment aligned with the AGA UC Clinical Care Pathway to achieve remission and improvement in endoscopic appearance of the mucosa.





# The Natural History of Ulcerative Colitis

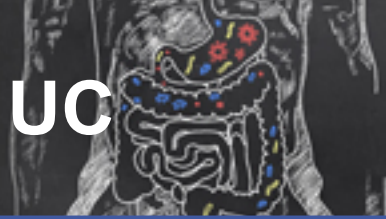
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# General Public Myths and Misconceptions about IBD



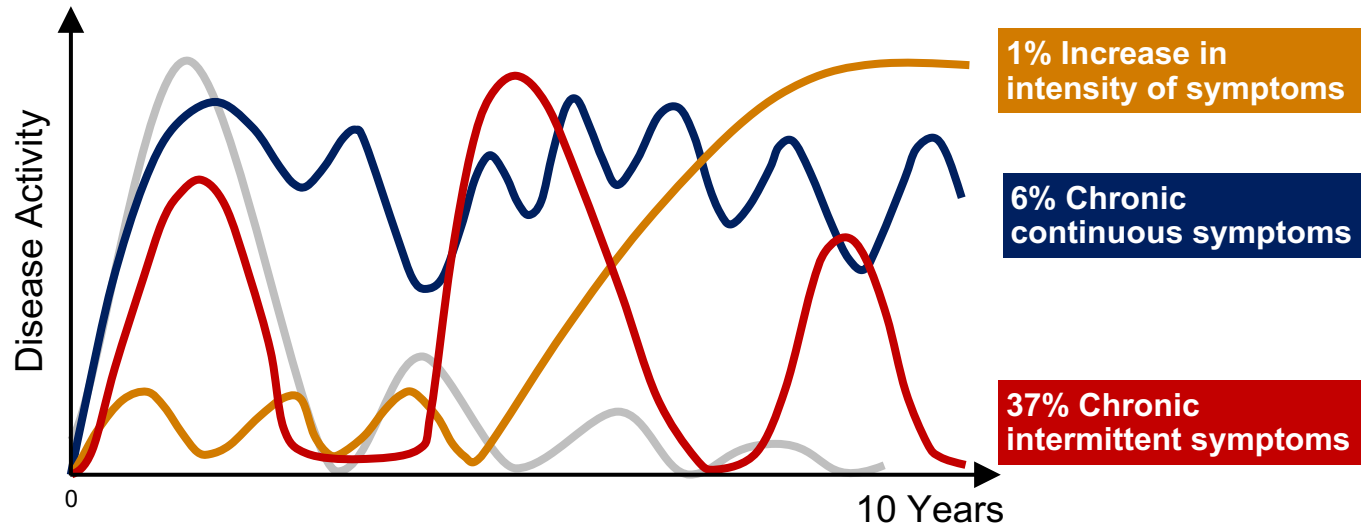
- In an internet survey of 1,200 individuals:
  - Familiarity with IBD self-reported at an average of 5.54 (1 = not at all familiar, 10 = extremely familiar)
  - IBD ranked as having greater social stigma than genital herpes, alcoholism, cancer, diabetes, obesity, and HIV/AIDS
  - Visible conditions contributing to stigma: presence of a stoma, bloody diarrhea, excessive weight gain, body odor, restroom proximity, sudden dizzy spells, skin sores, acne and gas
  - Knowledge of IBD low: 86% of respondents answered majority of questions pertaining to IBD causes, symptoms and possible cures incorrectly
    - Web-based content and social media sites significantly contributed to this lack of knowledge

# Appropriate Treatment Is Important – Unfavorable Disease Course in ~50% of UC Patients



IBSEN study\*: Clinical course of UC over 10 years follow-up (N = 423)

Diagnosed 1990 to 1994

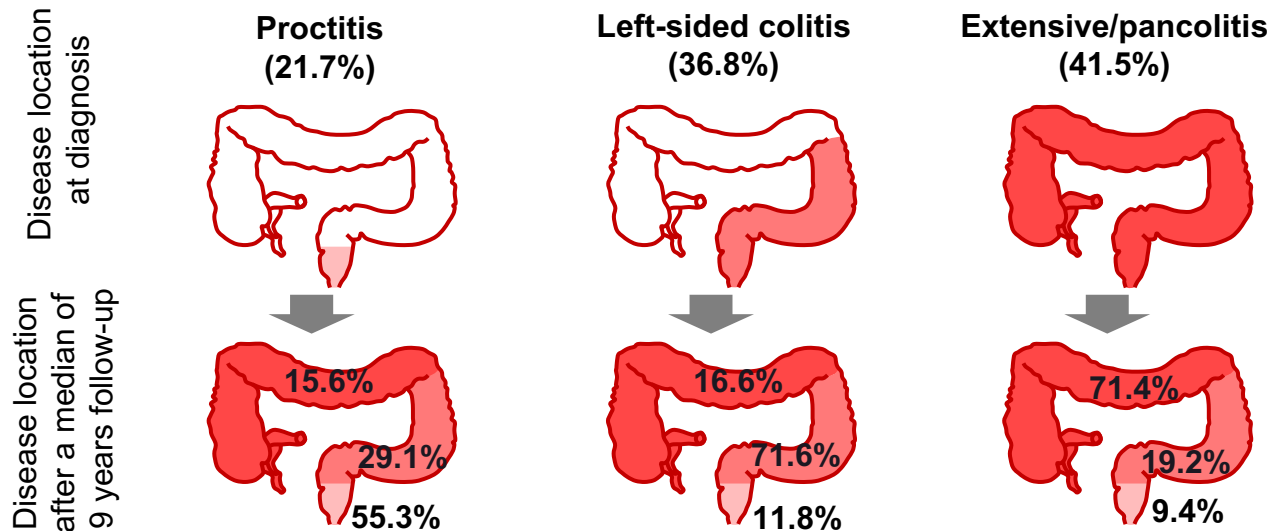


\*From 1990 to 1994, patients with inflammatory bowel disease were enrolled in South-Eastern Norway and systematically followed-up for up to 10 years after diagnosis. Grey line: 55% decrease in intensity of symptoms or remission over time. Adapted from: Solberg IC, et al. *Scand J Gastroenterol.* 2009;44:431-440.

# Ulcerative Colitis Is a Progressive Disease: How Do We Measure Progression — Proximal Extension?

Swiss IBD cohort study: Evolution of disease extent over a median disease duration of 9 years, from 2006 (N = 918)

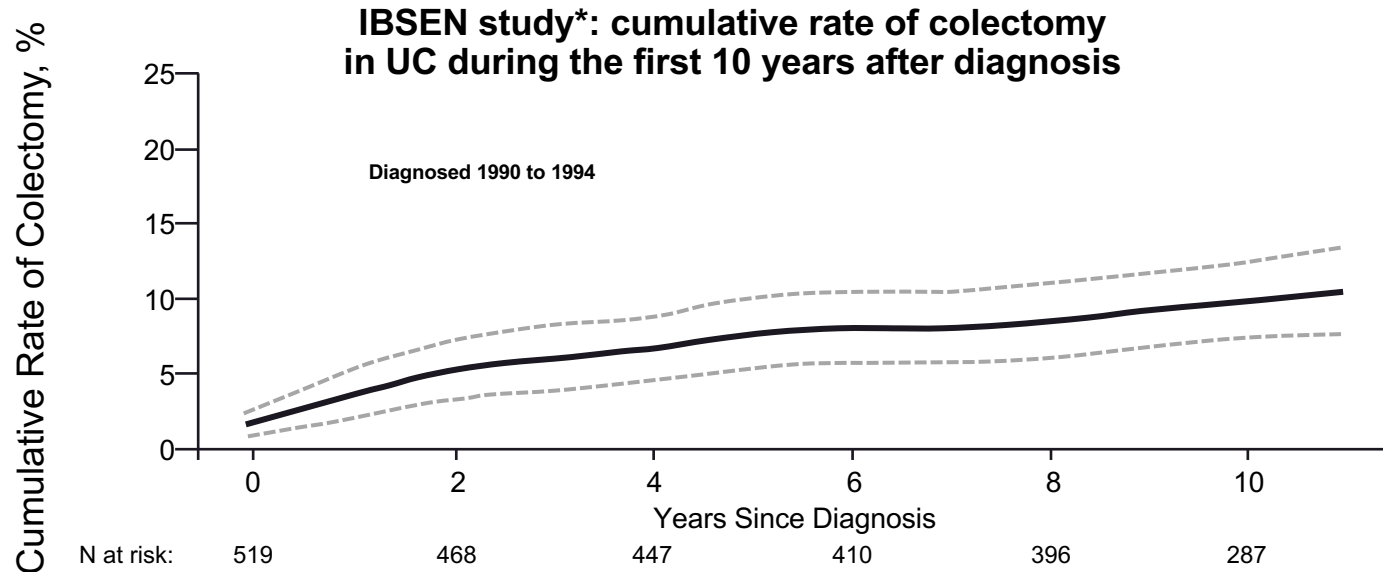
Disease duration at study inclusion: Median 6 years, IQR 2-13 years, Range 0-46 years



**~15%** of UC patients experienced proximal disease extension over 9 years



# Ulcerative Colitis Is a Progressive Disease: How Do We Measure Progression — Colectomy?



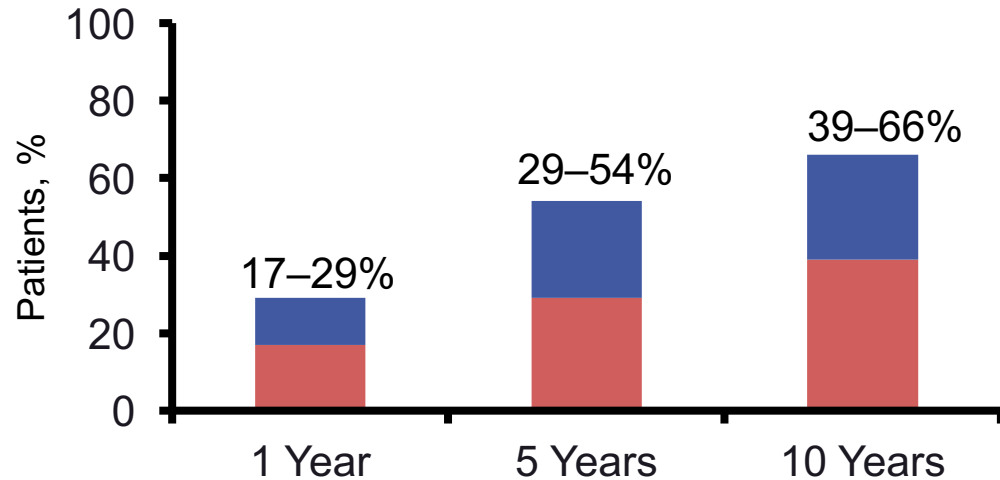
**~10% of patients with UC required colectomy over 10 years**

\*From 1990 to 1994, patients with inflammatory bowel disease were enrolled in South-Eastern Norway and systematically followed-up for up to 10 years after diagnosis.

Solberg IC, et al. *Scand J Gastroenterol.* 2009;44:431-440.

# Ulcerative Colitis Is a Progressive Disease: How Do We Measure Progression — Hospitalization?

Cumulative probabilities of hospitalization in patients with UC

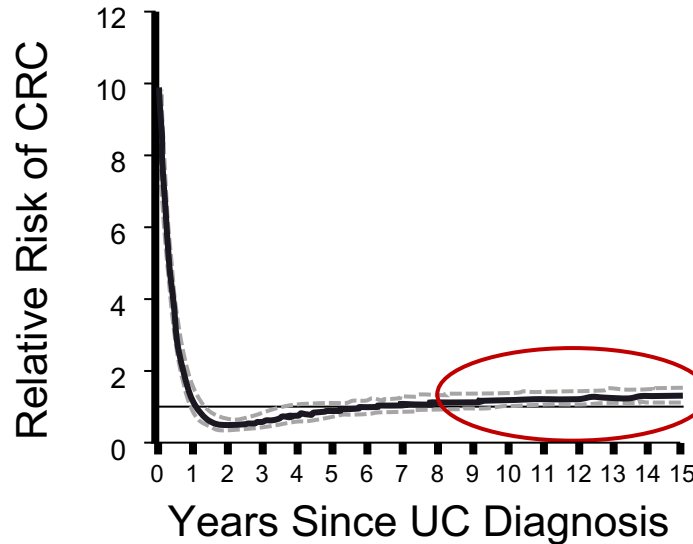


**~50%** of patients with UC required hospitalization at some point during disease course

# Ulcerative Colitis Is a Progressive Disease: How Do We Measure Progression — Colorectal Cancer?



Risk of colorectal cancer in a nationwide cohort of Danish patients with UC > 30 yrs (N = 32,911)



Relative risk adjusted for sex, age, calendar time.  
Dotted lines indicated 95% confidence intervals.

**Subgroups** of patients with UC were at increased risk for colorectal cancer

# Ulcerative Colitis Is a Progressive Disease: How Do We Measure Progression — Bowel Damage?

## Local Complications of Ulcerative Colitis: Stricture, Pseudopolyposis, and Carcinoma of Colon and Rectum\*

F. T. DE DOMBAL,† M.B., B.CHIR. ; J. McK. WATTS,‡ M.B., F.R.A.C.S. ; G. WATKINSON,§ M.D., F.R.C.P.  
J. C. GOLIGHER,|| CH.M., F.R.C.S.

*Brit. med. J.*, 1966, 1, 1442-1447

Part of the notoriety which ulcerative colitis enjoys is derived from the diversity of complications accompanying this disease. We have reported elsewhere on the rectal and perirectal complications (de Dombal, Watts, Watkinson, and Goligher, 1966). The extent of the disease of the colon (de Dombal

et al., 1966) was repeatedly estimated by means of barium enema and by sigmoidoscopy. Both the severity and extent of disease were reassessed each year on the basis of information available in that year. The results of the follow-up

### Other damage

- Dysmotility
- Anorectal dysfunction
- Impaired permeability

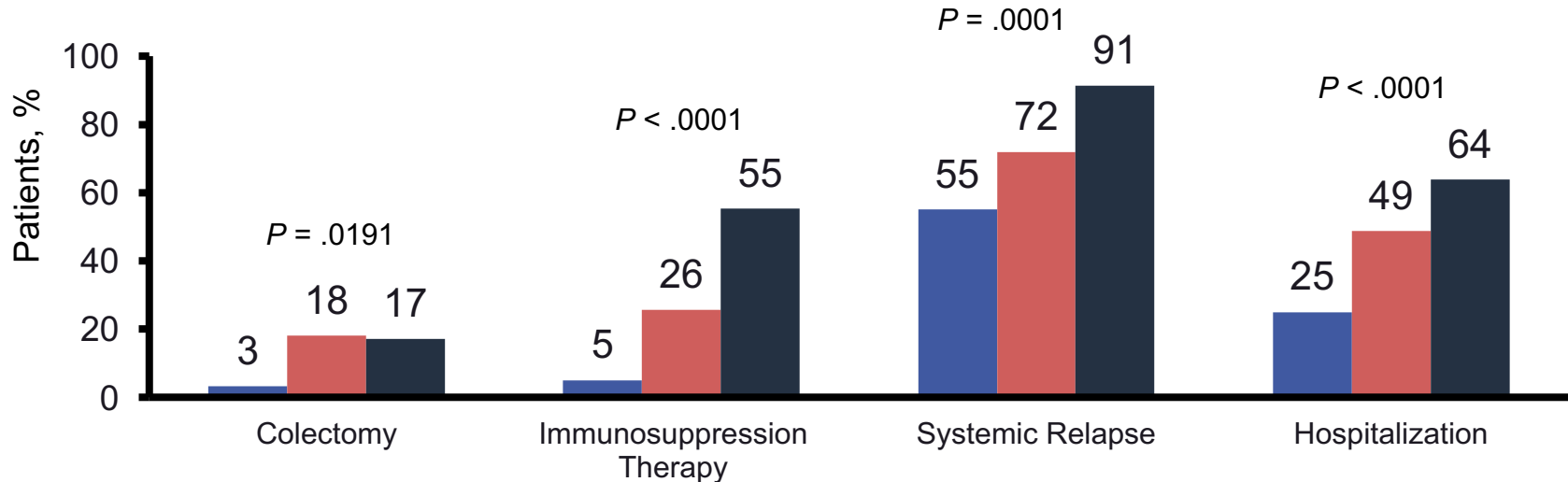


# Early, Lasting Clinical and Endoscopic Remission Predicts Better Long-term Outcomes in UC



Outcome at 5-year follow-up according to early response to steroids

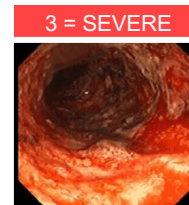
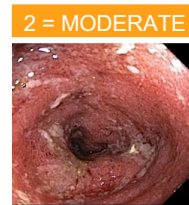
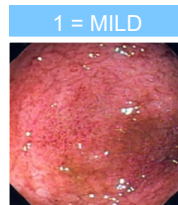
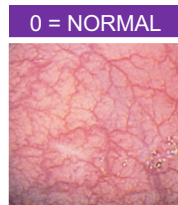
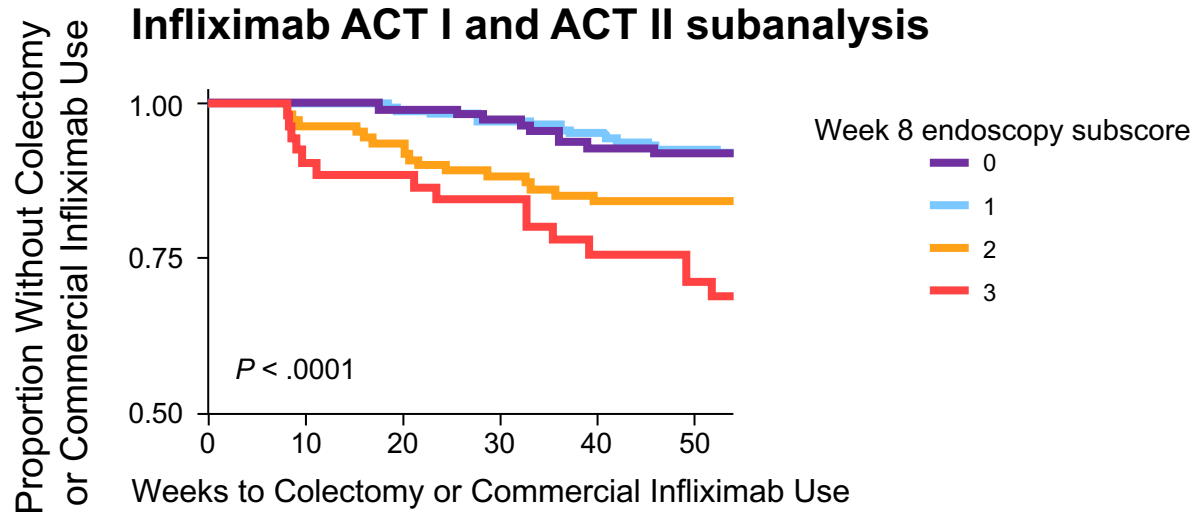
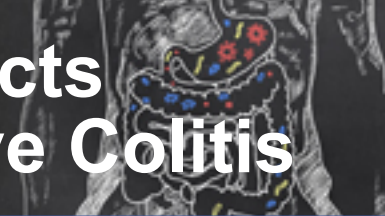
- Clinical and endoscopic remission at month 3 (n = 60)
- Clinical but no endoscopic remission at month 3 (n = 39)
- No clinical and endoscopic remission at month 3 (n = 58)



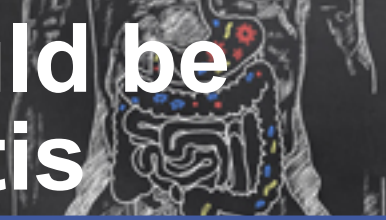
N=157 patients with moderate-to-severe newly diagnosed UC; 5-year follow-up after first course of steroids; classified according to remission at 3 months; mean follow-up 51 (4-60) months.

Ardizzone S, et al. *Clin Gastroenterol Hepatol*. 2011;9:483-489.e3.

# Greater Endoscopic Improvement Predicts Better Long-term Outcomes in Ulcerative Colitis

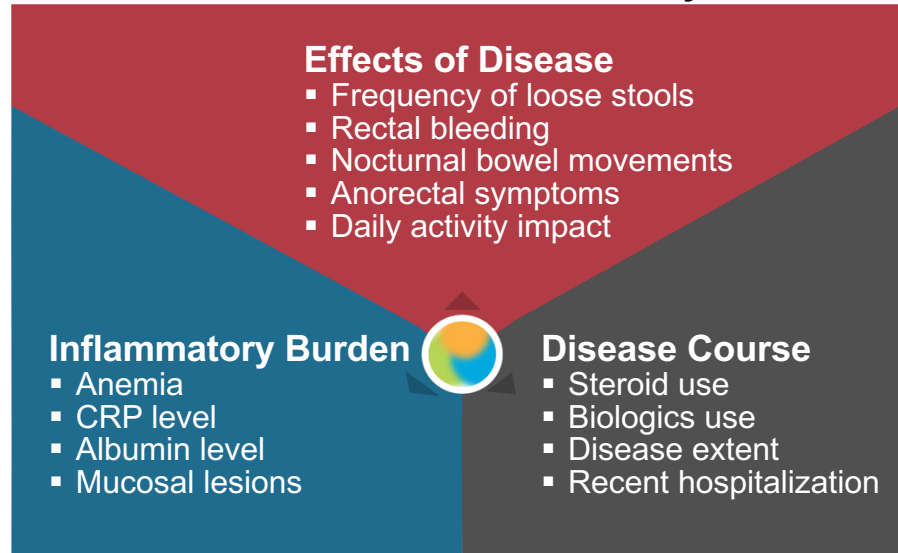


# Early Intensive Treatment Should be Personalized in Ulcerative Colitis



- Early, intensive treatment may not be necessary for all UC patients
- To guide the initiation of appropriate treatment in the right patient at the right time, we need a global evaluation of overall disease severity

## IOIBD: UC overall disease severity index



# IOIBD: Ulcerative Colitis Overall Disease Severity Index



Effects of disease		Score
<b>Frequency of loose stools</b>	▪ No change in frequency of loose stools compared with baseline	0
	▪ Increase in frequency of loose stools by 1 per day compared with baseline	4
	▪ Increase in frequency of loose stools $\geq 2$ per day compared with baseline	5
<b>Rectal bleeding</b>	▪ No rectal bleeding	0
	▪ Rectal bleeding	3
<b>Nocturnal bowel movements</b>	▪ No nocturnal bowel movements	0
	▪ Nocturnal bowel movements	4
<b>Anorectal symptoms</b>	▪ None of the following: anorectal pain, bowel urgency, incontinence, discharge, tenesmus	0
	▪ $\geq 1$ of the following: anorectal pain, bowel urgency, incontinence, discharge, tenesmus	4
<b>Daily activity impact</b>	▪ Disease does not significantly impact daily activities	0
	▪ Disease significantly impacts daily activities	14

IOIBD = International Organization for the Study of Inflammatory Bowel Disease.  
 Siegel CA, et al. *Gut*. 2018;67(2):244-254.



# IOIBD: Ulcerative Colitis Overall Disease Severity Index



Inflammatory burden		Score
<b>Anemia</b>	▪ Not anemic (according to WHO criteria)	0
	▪ Anemic (according to WHO criteria)	5
<b>CRP level</b>	▪ Normal CRP levels (1–3 mg/L)	0
	▪ Slightly elevated CRP levels (3–5 mg/L)	4
	▪ Elevated CRP levels (above 5 mg/L)	11
<b>Albumin level</b>	▪ Normal albumin level (>3.5–5.0 g/dL)	0
	▪ Low albumin level (<3.5 g/dL)	5
<b>Mucosal lesions</b>	▪ No active erosions or ulcers	0
	▪ Active erosions confirmed by endoscopy	14
	▪ Active ulcers confirmed by endoscopy	18

WHO = World Health Organization.  
Siegel CA, et al. *Gut*. 2018;67(2):244-254.

# IOIBD: Ulcerative Colitis Overall Disease Severity Index

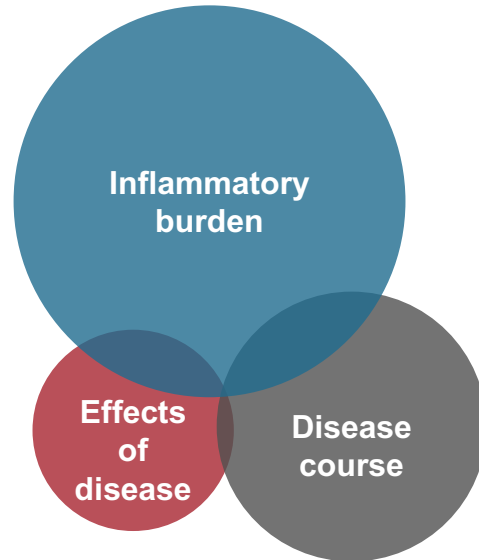


Disease course		Score
<b>Steroid use</b>	▪ No steroid use within the past year	0
	▪ Steroid use within the past year	8
<b>Biologics use</b>	▪ Never used biologics/immunomodulators	0
	▪ Experienced some symptom improvement with use of biologics/immunomodulators	4
	▪ No symptom improvement with use of biologics/immunomodulators	10
<b>Disease extent</b>	▪ Distal colitis (inflammation potentially treatable using enemas)	0
	▪ Extensive colitis (inflammation extending beyond reach of enemas)	5
<b>Recent hospitalization</b>	▪ No disease-related hospitalization within last 12 months	0
	▪ Disease-related hospitalization within last 12 months	8

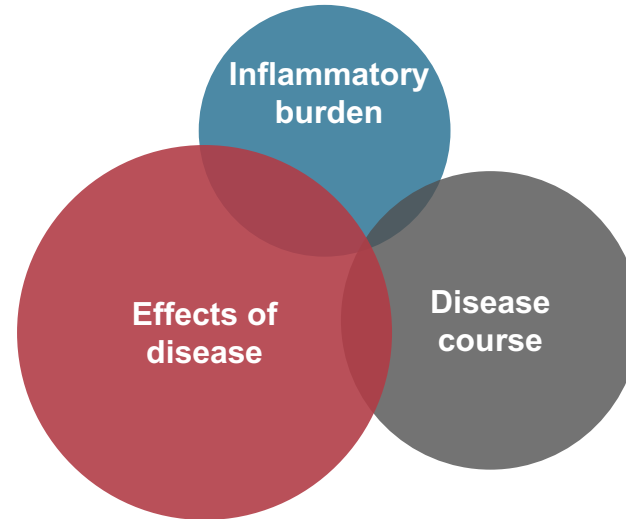
# Disease Severity Components Differ According to Individual's Disease State



Asymptomatic left-sided colitis and moderately active endoscopic lesions



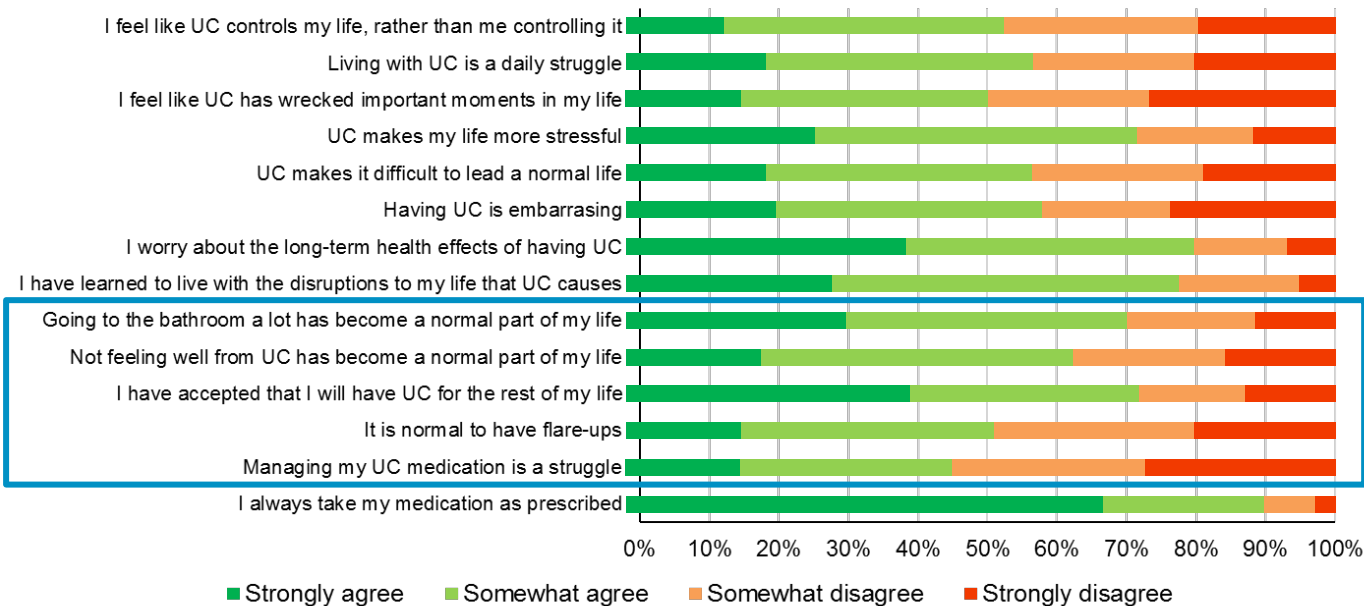
Anorectal dysfunction causing distressing symptoms of urgency, tenesmus, and incontinence



# Treatment Strategy Should Take Into Account Patients' Perception About Their Disease



## UC CARES Study: Patients' Perception of Disease



# Conclusions



- UC is a chronic and progressive disease, but lack of direct, operational measures for disease progression may have contributed to suboptimal management of UC
- Early, lasting remission is associated with improved long-term outcomes in UC and therefore warrants early intensive therapy in appropriate patients
- Patients desire a medical therapy with
  - Rapid onset
  - High efficacy
  - Long-lasting action
  - Favorable safety
- Risk stratification is important for making treatment decisions

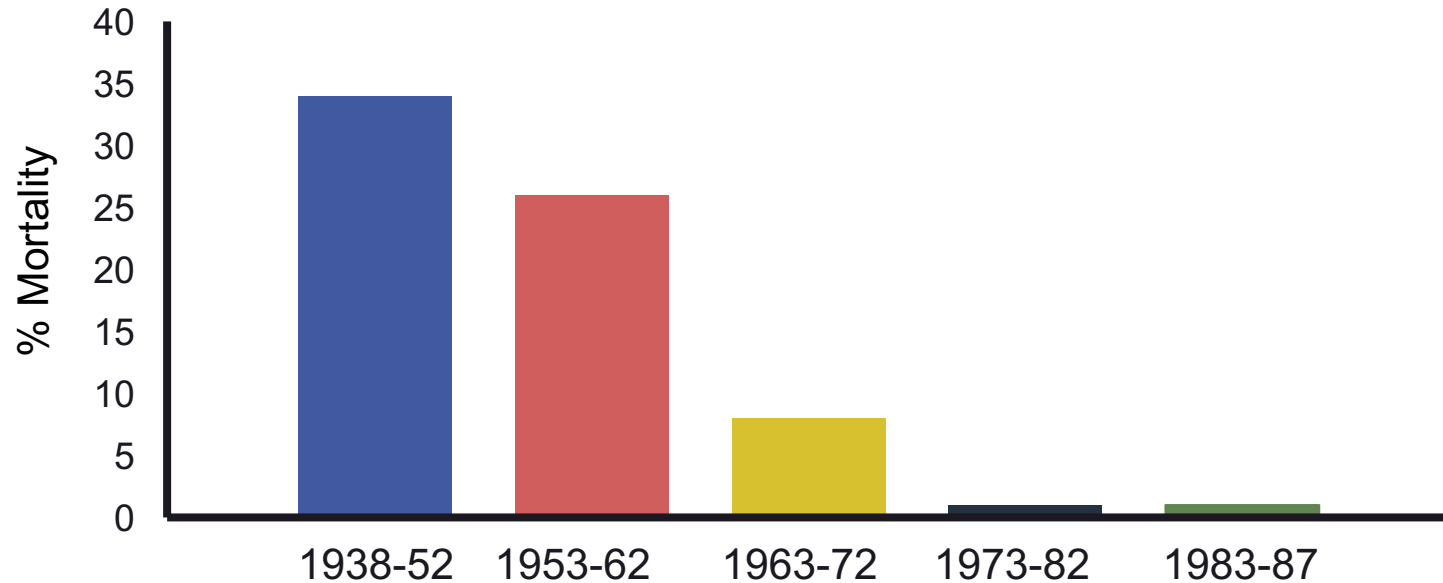


# Steroid Fact or Fiction: Before You Reach for the Prednisone... Again

**William J. Sandborn, MD**  
University of California San Diego and  
UC San Diego Health System  
La Jolla, CA



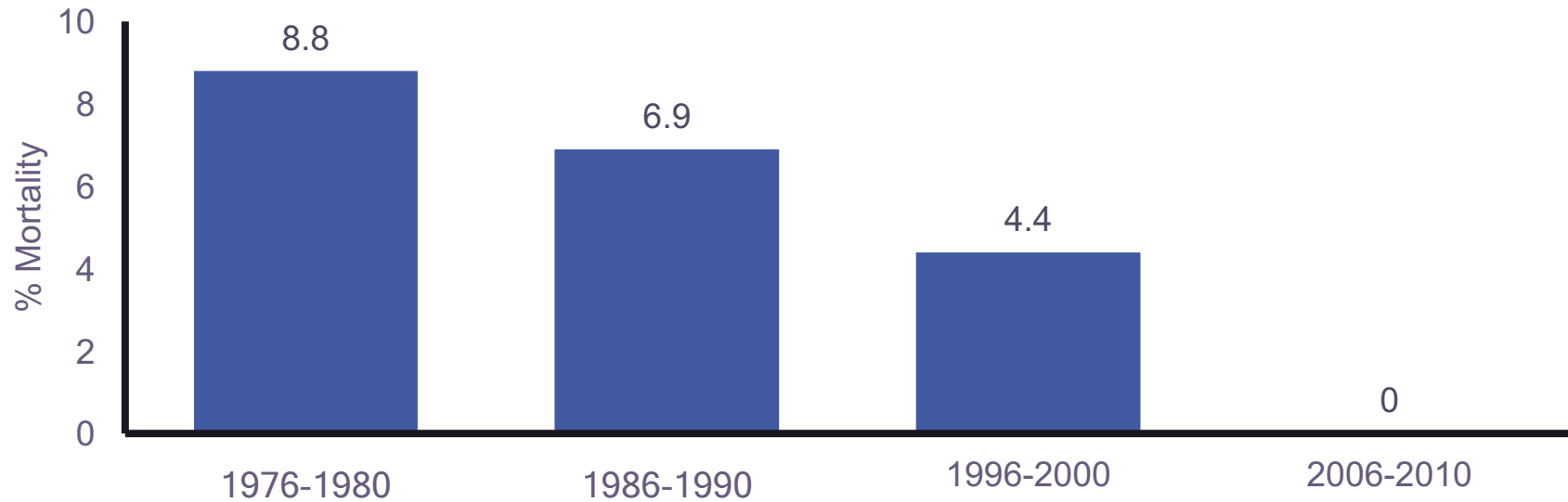
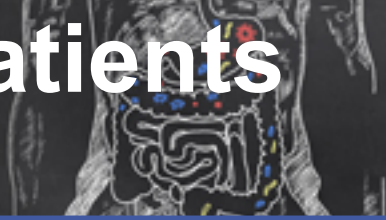
# Mortality From a Severe Ulcerative Colitis Attack



Edwards FC, et al. *Gut*. 1963;(4):299-315.

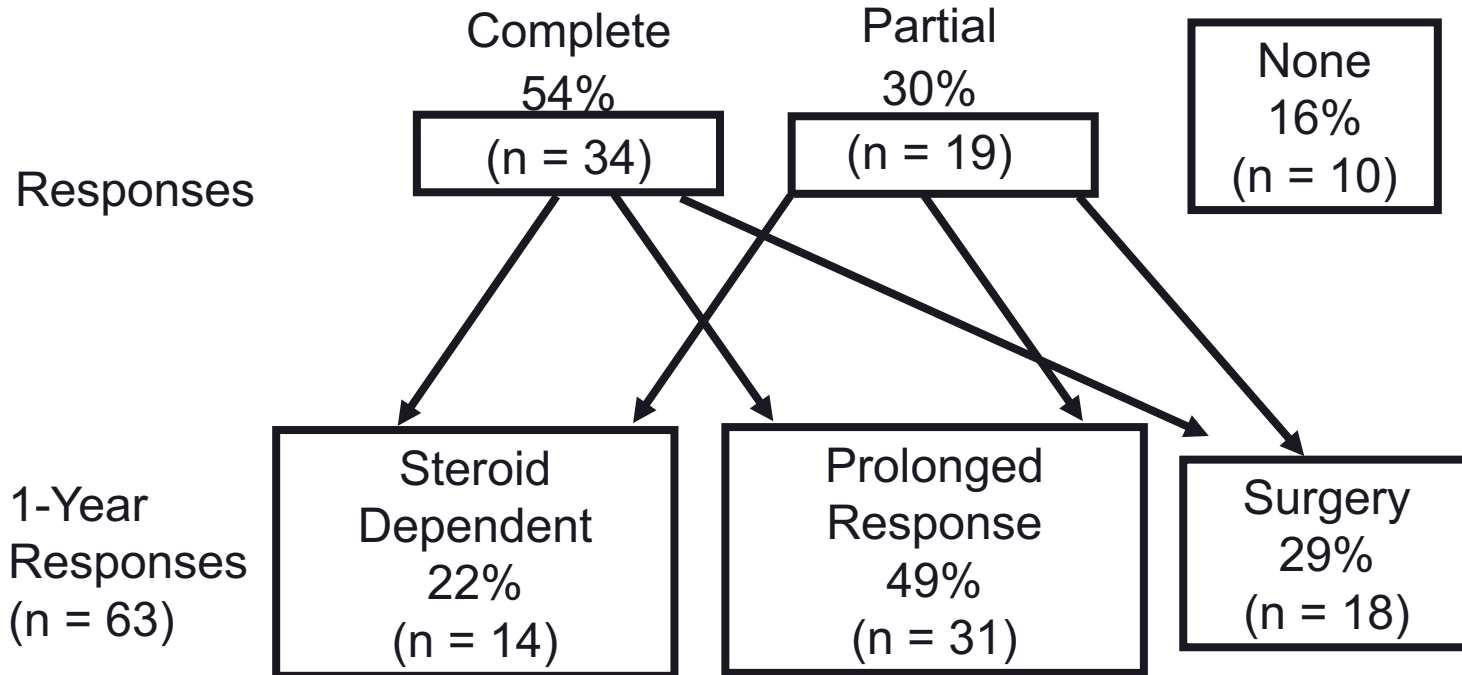
Daperno M, et al. *Aliment Pharmacol Ther*. 2002;16(4):7-12.

# Reduction in Mortality Rate in Patients with Severe Ulcerative Colitis

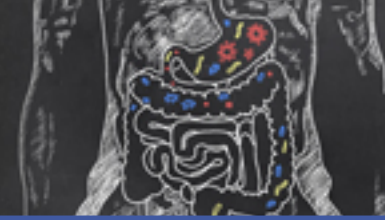


Clemente V, et al. *Dig Liver Dis.* 2016;48:371-375.

# Immediate and Prolonged Outcomes of Corticosteroid Therapy\* in UC

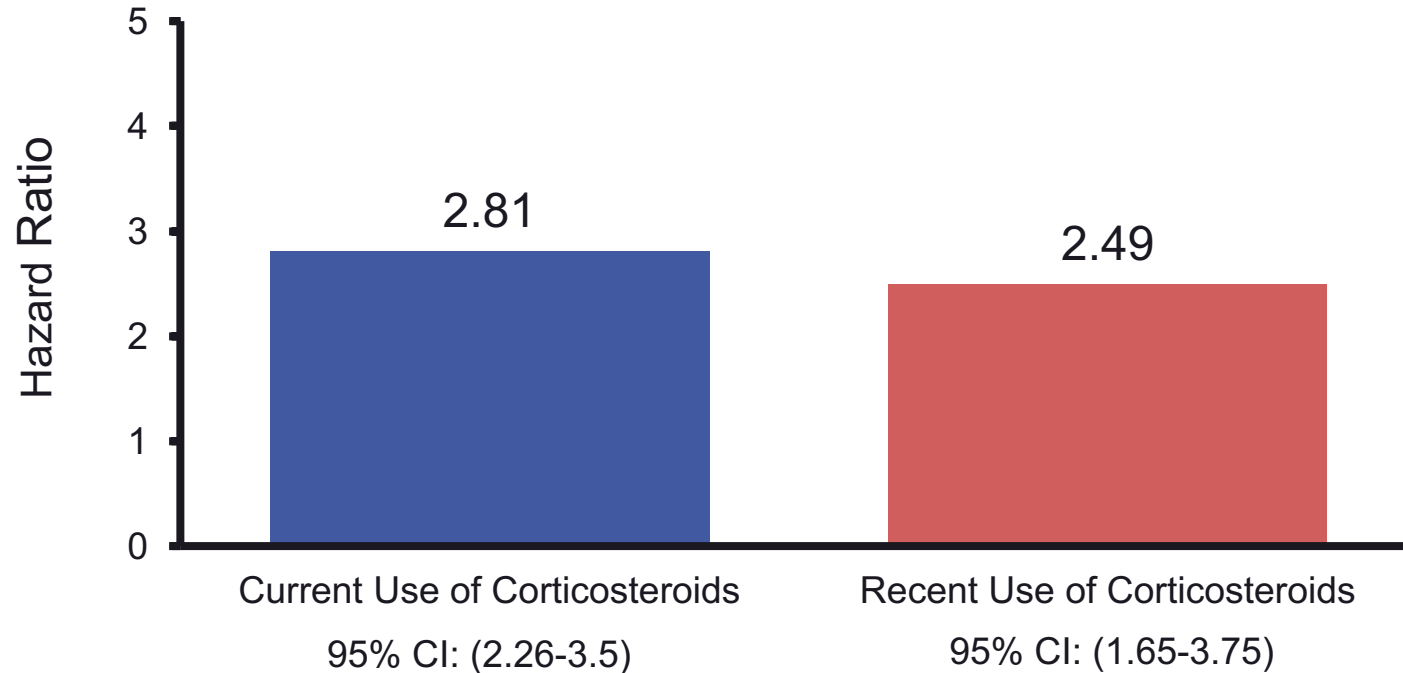


# Corticosteroid Toxicity



- Diabetes
- Infection
- Osteonecrosis
- Osteoporosis
- Myopathy
- Cataracts
- Glaucoma
- Psychosis
- Moon face
- Acne
- Ecchymoses
- Hypertension
- Hirsutism
- Petechial bleeding
- Striae

# Mortality Associated with Current and Recent Corticosteroid Use – Adjusted HR (95% CI)





# Step-Up or Top-Down? Sorting Through Common Treatment Misconceptions in UC

David T. Rubin, MD, FACP, AGAF, FASGE  
University of Chicago Medicine  
Chicago, IL

# Gaps in the Care of Ulcerative Colitis



- Do not know the cause of and do not have a medical cure for UC
  - Clinical and epidemiologic observations and associations
  - Many theories
  - Patients often have their own thoughts about it
- Large primary non-response rate
- Large secondary loss of response
- Fear of adverse events (by patients and clinicians)
  - Therapies
  - Disease-related (cancer, surgery)
- Surgery has its downsides
- Mismatched expectations and confusion between patients and providers



# Goals of Treatment for IBD

## Induction of Deep Remission

- Turning “off” the inflammation
- Feeling well
- Normalization of labs, growth, development and nutrition
- Healing of the bowel

## Maintenance of Remission

- Stable disease control and optimization of therapy
- NO STEROIDS
- Prevention of relapse over time
- Changing the natural course of the disease

## Disease Monitoring and Prevention

- Monitoring for early relapse
- Monitoring therapies
- Prevention of infections
- Cancer prevention

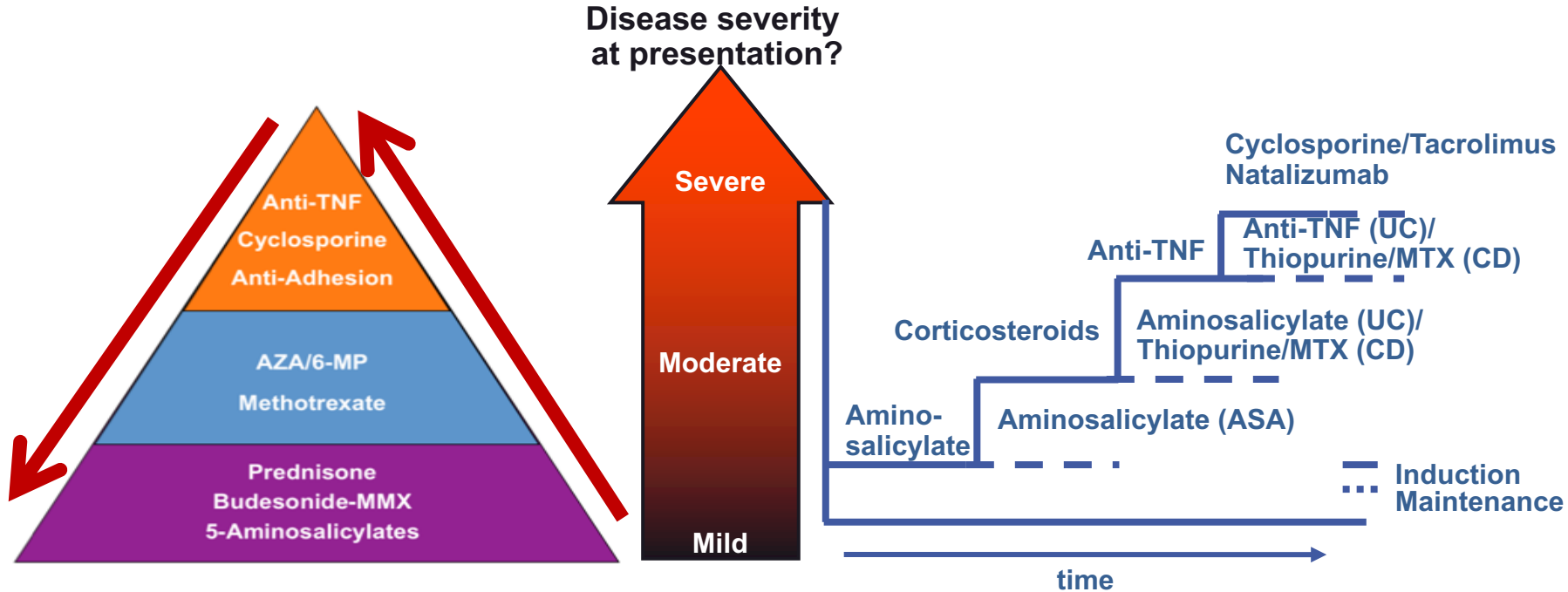
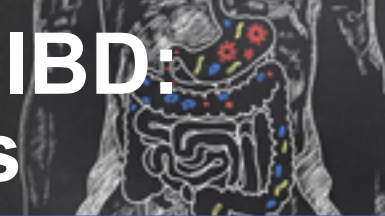
# Current Medications for Ulcerative Colitis



<b>5-ASA</b>	Sulfasalazine Mesalamine Oral/Enema/suppository
<b>Corticosteroids</b>	Prednisone Budesonide MMX Foams/Enemas/suppository
<b>Immunomodulators</b>	Azathioprine/6-MP* Cyclosporine* Tacrolimus*
<b>Biologics</b>	Infliximab Adalimumab Golimumab Vedolizumab

\*azathioprine, 6-MP, cyclosporine, and tacrolimus are not FDA-approved for UC.  
[Package Insert]. [Drugs@FDA](mailto:Drugs@FDA) Website.

# Historical Treatment Strategies for IBD: Symptom-Based, Short-Term Goals



## ***“Step-Up” and “Dirty Therapy” Strategies are Flawed***

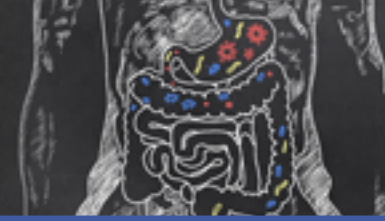
Azathioprine (AZA), 6-mercaptopurine (6-MP), methotrexate (MTX), cyclosporine, and tacrolimus are not FDA-approved for UC or Crohn’s disease (CD).

# Inherent Problems with Step-Up and Expectant Management

- Don't accurately reflect heterogeneity of patient types
- “Reactive” rather than “proactive”
  - Require failure of one step or class before moving onto another
  - Imply static treatment levels and do not address or anticipate changes over time
- New therapies tend to be added to the end of the line

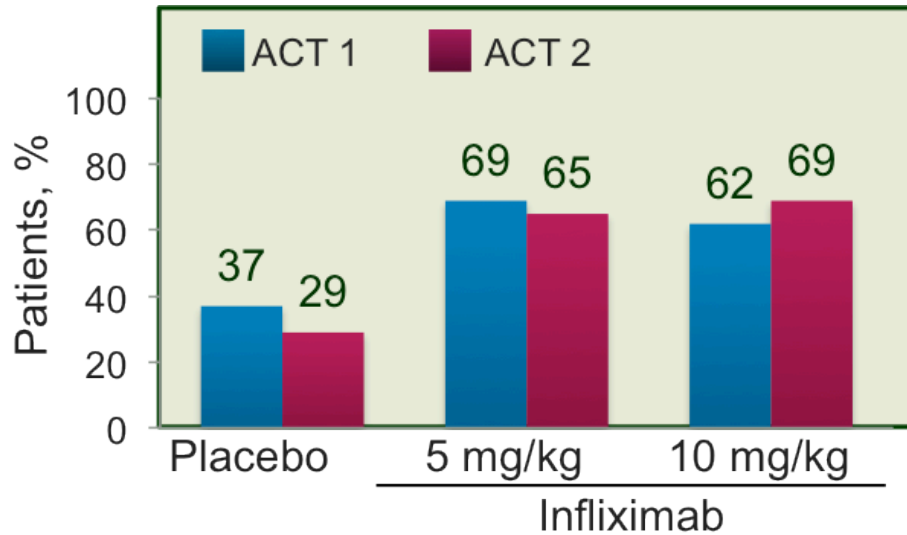


# Induction Treatment with Anti-TNF $\alpha$ in UC

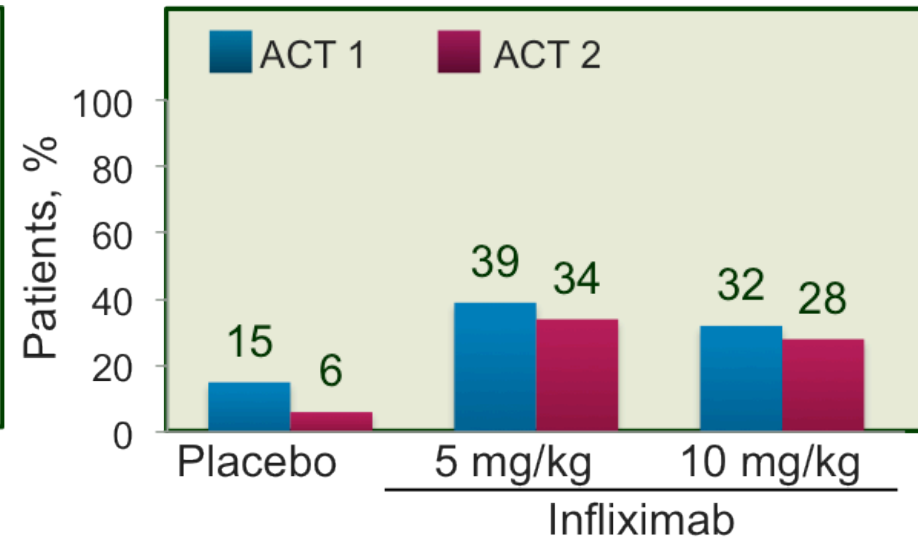


## Infliximab

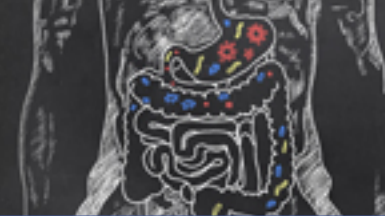
### Response at Week 8



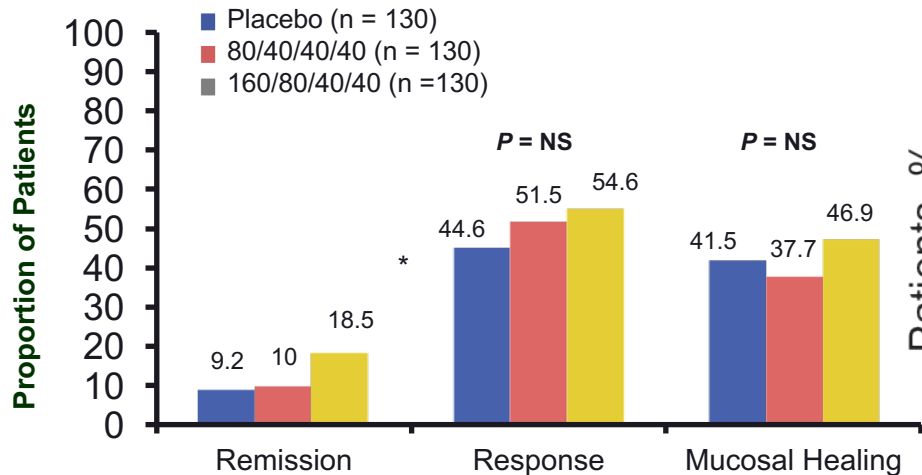
### Remission at Week 8



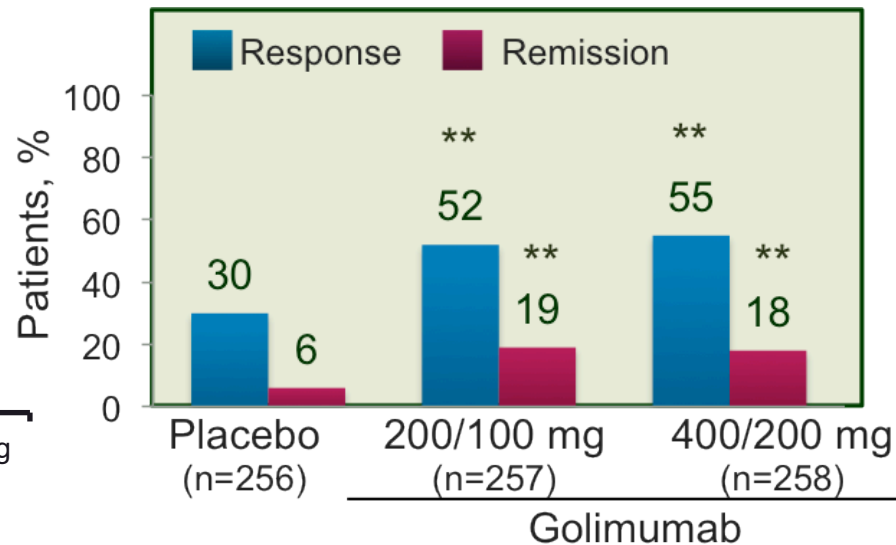
# Induction Treatment with Anti-TNF $\alpha$ in UC



## Adalimumab Outcomes at Week 8<sup>1</sup>



## Golimumab Outcomes at Week 6<sup>2</sup>

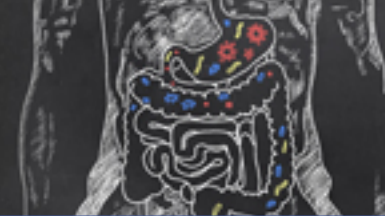


<sup>1</sup>Reinisch W, et al. *Gut*. 2011;60(6):780-787.

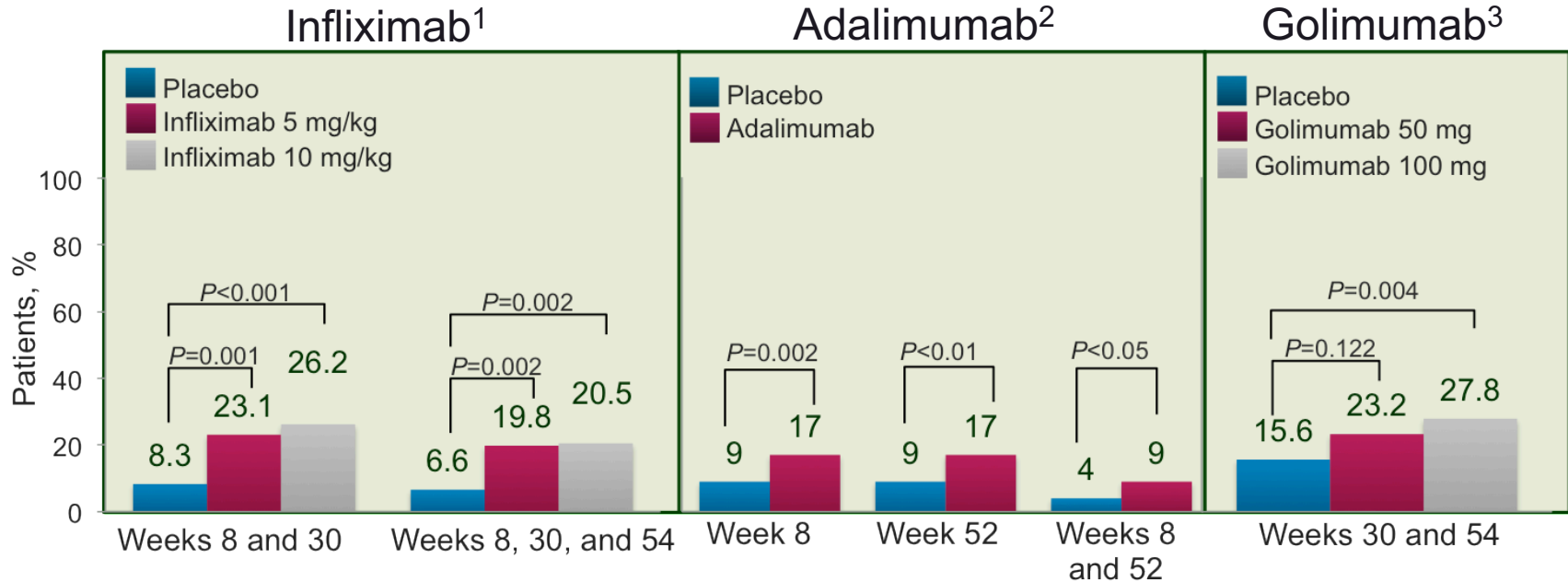
<sup>2</sup>Sandborn WJ, et al. *Gastroenterology*. 2014;146(1):85-95.



# Maintenance Treatment with Anti-TNF $\alpha$ in UC



## Remission Rates Achieved with Anti-TNF Agents



<sup>1</sup>Rutgeerts P, et al. *N Engl J Med.* 2005;353(23):2462-2476.; <sup>2</sup>Sandborn WJ, et al. *Gastroenterology.* 2012;142(2):257-265.; <sup>3</sup>Sandborn WJ, et al. *Gastroenterology.* 2014;146(1):96-109.

# Proportion of Patients Achieving Clinical Remission by Serum Infliximab (IFX) Concentration: ACT 1 and 2

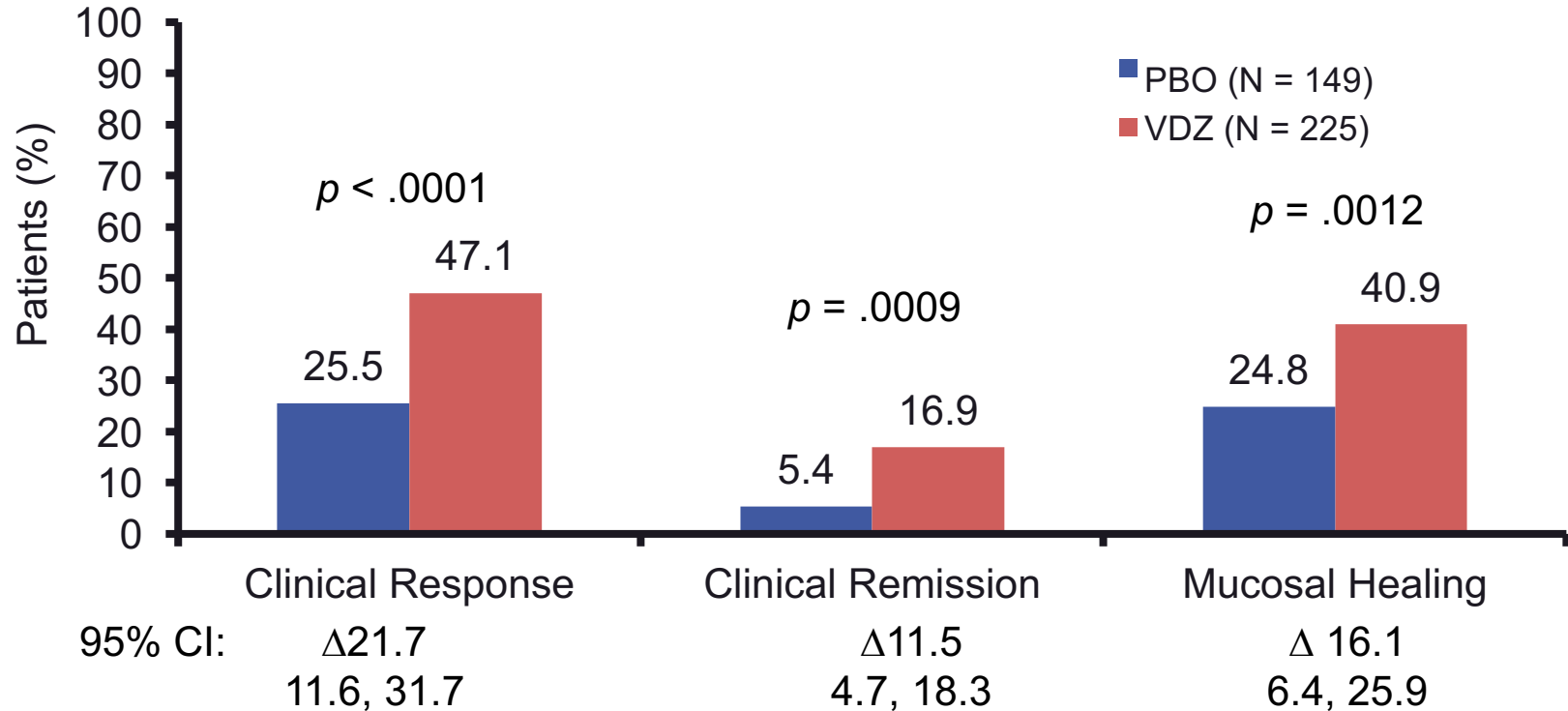
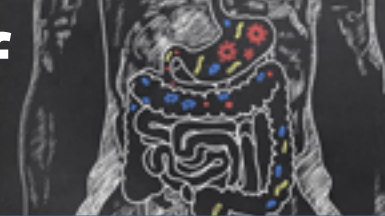


- At weeks 8, 30 and 54, the proportion of patients achieving clinical remission increased with increasing quartiles of IFX concentrations.

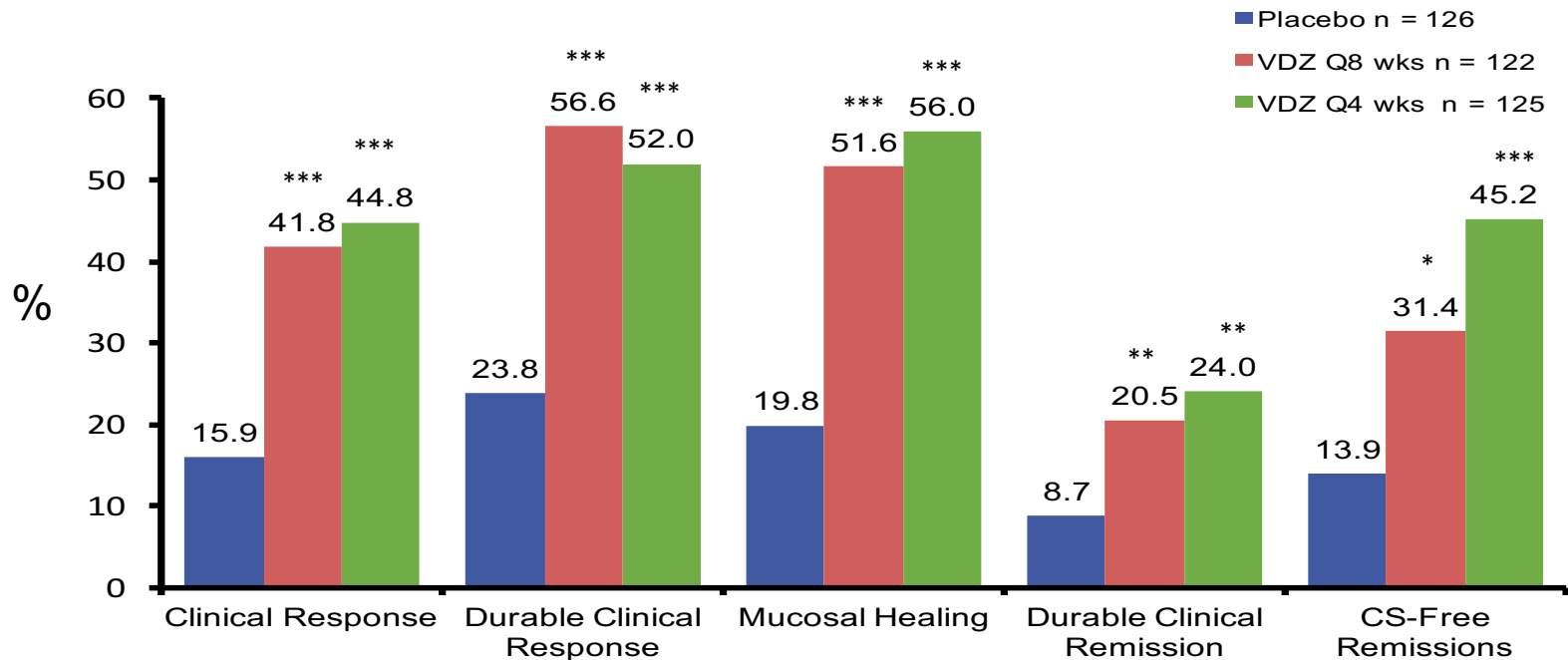
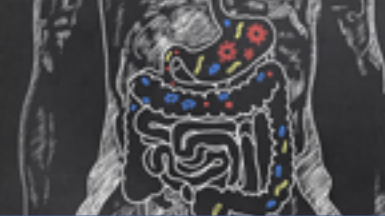
IFX Conc. (% patients)	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile	p-values
<b>Week 8</b>	<b>26.3%</b> ( $<21.3\mu\text{g/mL}$ )	<b>37.9%</b> ( $\geq 21.3\text{-} < 33\mu\text{g/mL}$ )	<b>43.9%</b> ( $\geq 33\text{-} < 47.9\mu\text{g/mL}$ )	<b>43.1%</b> ( $>47.9\mu\text{g/mL}$ )	<b><math>p = .0504</math></b>
<b>Week 30</b>	<b>14.6%</b> ( $<0.11\mu\text{g/mL}$ )	<b>25.5%</b> ( $\geq 0.11\text{-} < 2.4\mu\text{g/mL}$ )	<b>59.6%</b> ( $\geq 2.4\text{-} < 6.8\mu\text{g/mL}$ )	<b>52.1%</b> ( $>6.8\mu\text{g/mL}$ )	<b><math>p &lt; .0001</math></b>
<b>Week 54</b>	<b>21.1%</b> ( $<1.4\mu\text{g/mL}$ )	<b>55.0%</b> ( $\geq 1.4\text{-} < 3.6\mu\text{g/mL}$ )	<b>79.0%</b> ( $\geq 3.6\text{-} < 8.1\mu\text{g/mL}$ )	<b>60.0%</b> ( $>8.1\mu\text{g/mL}$ )	<b><math>p = .0066</math></b>

Adedokun OJ, et al. *Gastroenterology*. 2014;146(6):1296-1307;  
Reinisch W, et al. *Gastroenterology*. 2012;142 (5; Suppl 1):S-114.

# Vedolizumab (VDZ) for Induction of Remission in UC (GEMINI I)



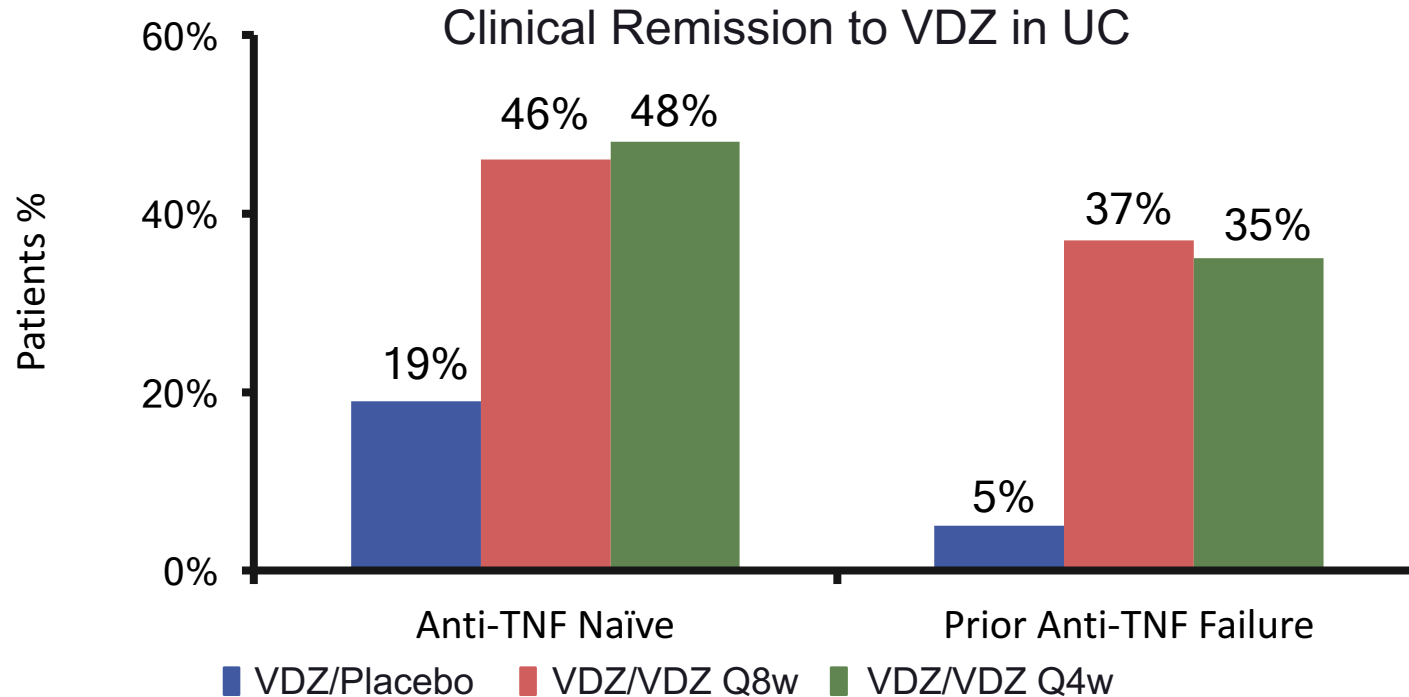
# Vedolizumab for Maintenance of Remission in UC (GEMINI I)



\* $p < .05$  \*\* $p < .01$  \*\*\* $p < .001$

Feagan BG, et al. *N Engl J Med.* 2013;369:699-710.

# Anti-TNF Naïve Patients Do Better with Vedolizumab (GEMINI I)



# Sub-Optimal Therapy in IBD



- 1,699 UC patients from the Thomson Reuters MarketScan Commercial Database (2005-2013)
- 91% of patients experienced at least one indicator of suboptimal biologic therapy within 36 months of biologic treatment initiation

	12-month rate (%)	36-month rate (%)
Any Indicator of suboptimal therapy	72	91
Dose escalation	28	44
Discontinuation	43	65
Switching	6	11
Augmentation	23	50
Disease-related surgery	8	13
Disease-related urgent care	10	15



# Assessment of Disease Risk in Ulcerative Colitis



- Standard assessment of UC activity (mild, moderate, severe) insufficient in guiding selection of therapy
- Need to assess risk of colectomy

## Low-Risk for Colectomy

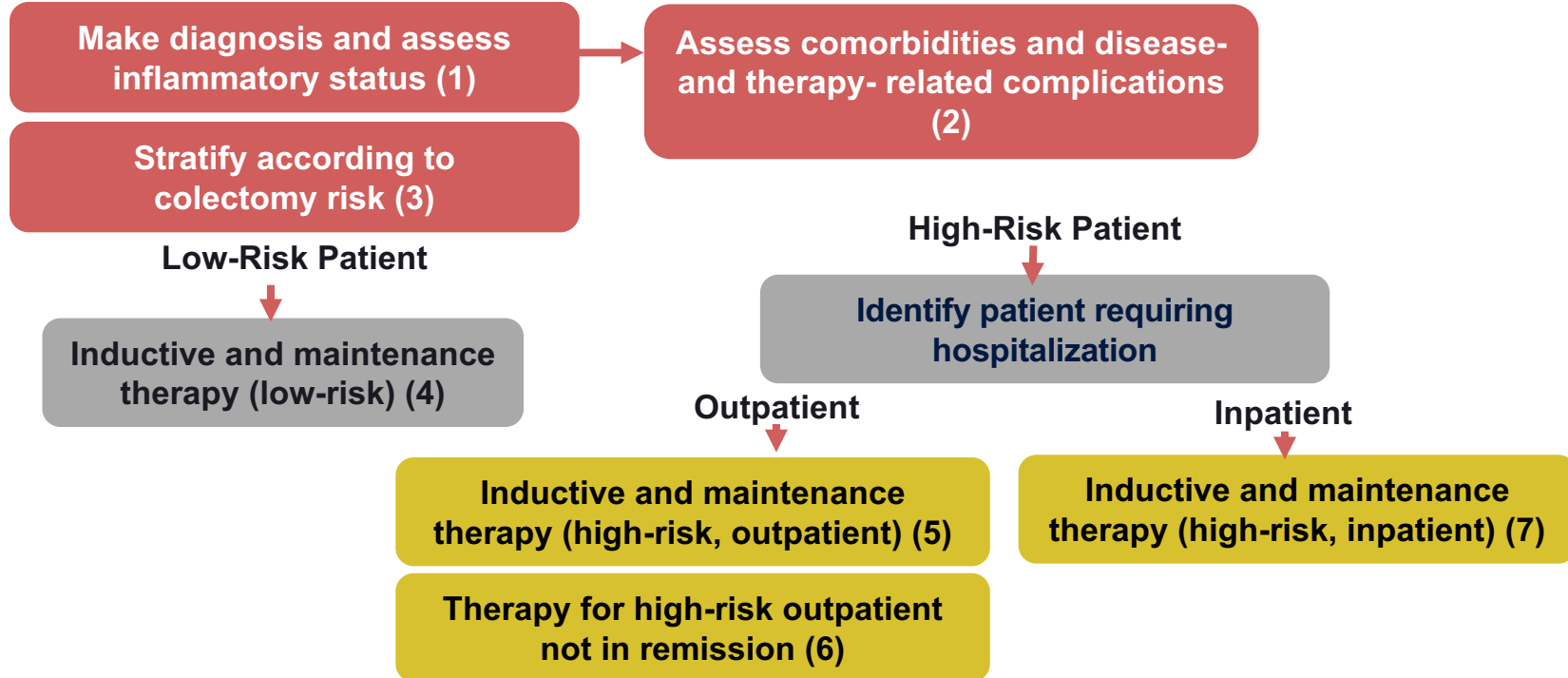
- Limited anatomic extent
- Mild endoscopic disease

## High-Risk for Colectomy

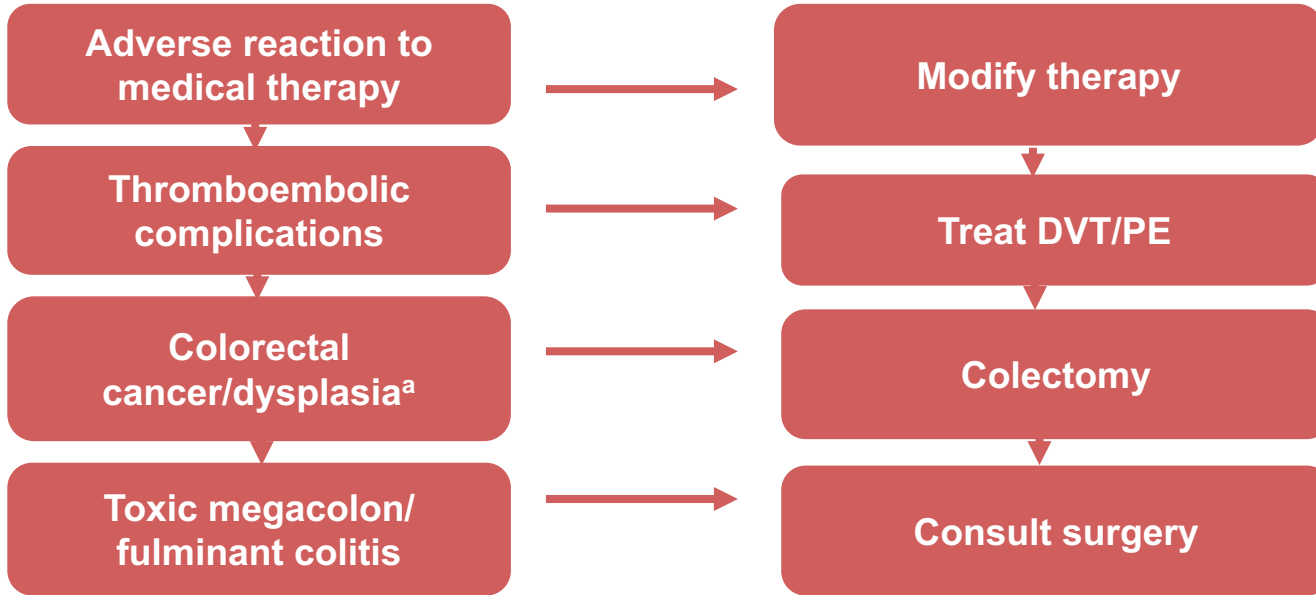
- Extensive colitis
- Deep ulcers
- Age <40
- High CRP and ESR
- Steroid-requiring disease
- History of hospitalization
- *C. difficile* infection
- CMV infection

ESR = erythrocyte sedimentation rate; CMV = cytomegalovirus  
Dassopoulos T, et al. *Gastroenterology*. 2015;149(1):238-245.

# Ulcerative Colitis Care Pathway



# Assess Comorbidities and Disease- and Therapy-Related Complications (2)



<sup>a</sup>Colectomy is recommended for: 1) Endoscopically unresectable dysplasia; 2) Invisible high-grade dysplasia; 3) Invisible low-grade dysplasia if multifocal, repetitive, or prevalent  
DVT = deep vein thrombosis; PE = pulmonary embolism.  
Dassopoulos T, et al. *Gastroenterology*. 2015;149:238-245.

# AGA Ulcerative Colitis Care Pathway

## Induction and Maintenance Therapy in High-risk Outpatients



### Induction Therapy

Short course of steroids with initiation of thiopurine

**Remission**

Anti-TNF ± thiopurine

**Vedolizumab ± immunomodulator**

**No Remission**

Therapy for **high-risk** outpatient not in remission

### Maintenance Therapy

- Thiopurine and taper steroids over 60days, or
- Anti-TNF ± thiopurine, or
- Vedolizumab ± thiopurine or methotrexate\*

Continue anti-TNF ± thiopurine

Continue **vedolizumab ± immunomodulator**

**Relapse**

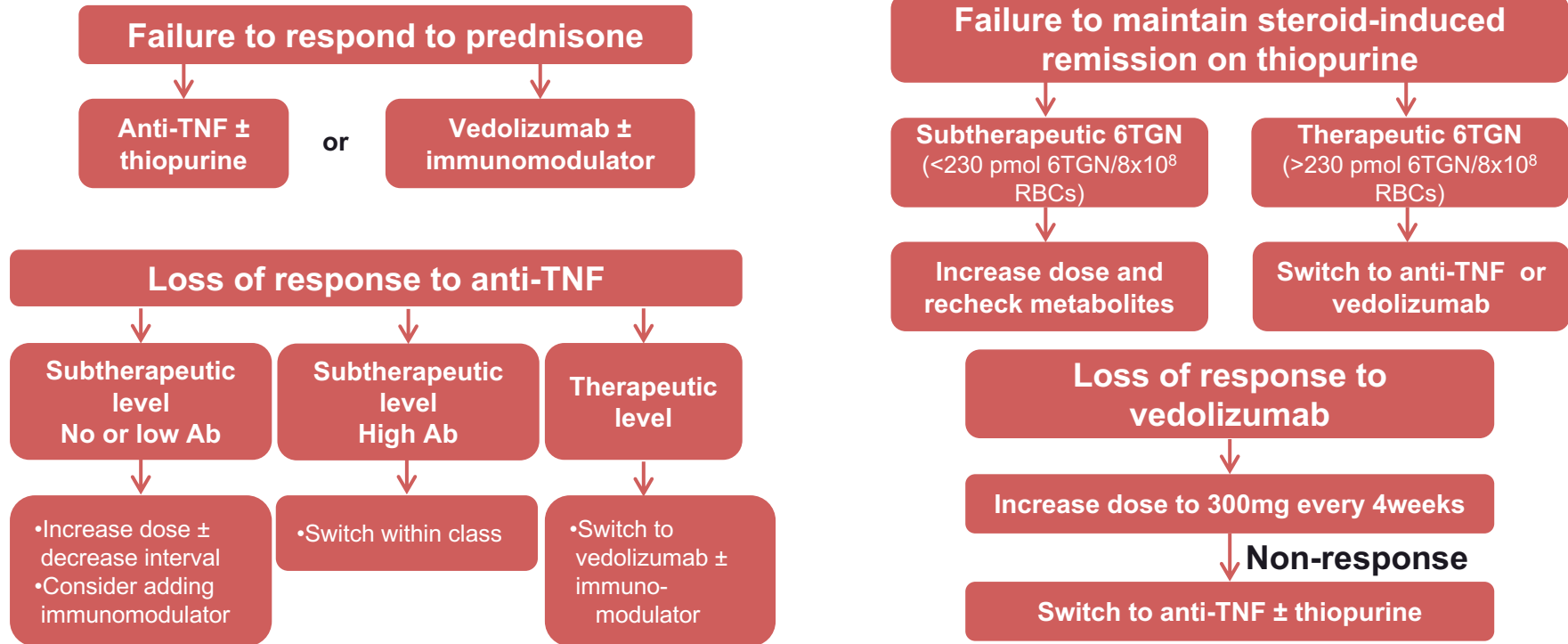
Therapy for high-risk outpatient not in remission

\*Methotrexate not FDA-approved for UC

Dassopoulos T, et al. Gastroenterology. 2015;149(1):238-245.

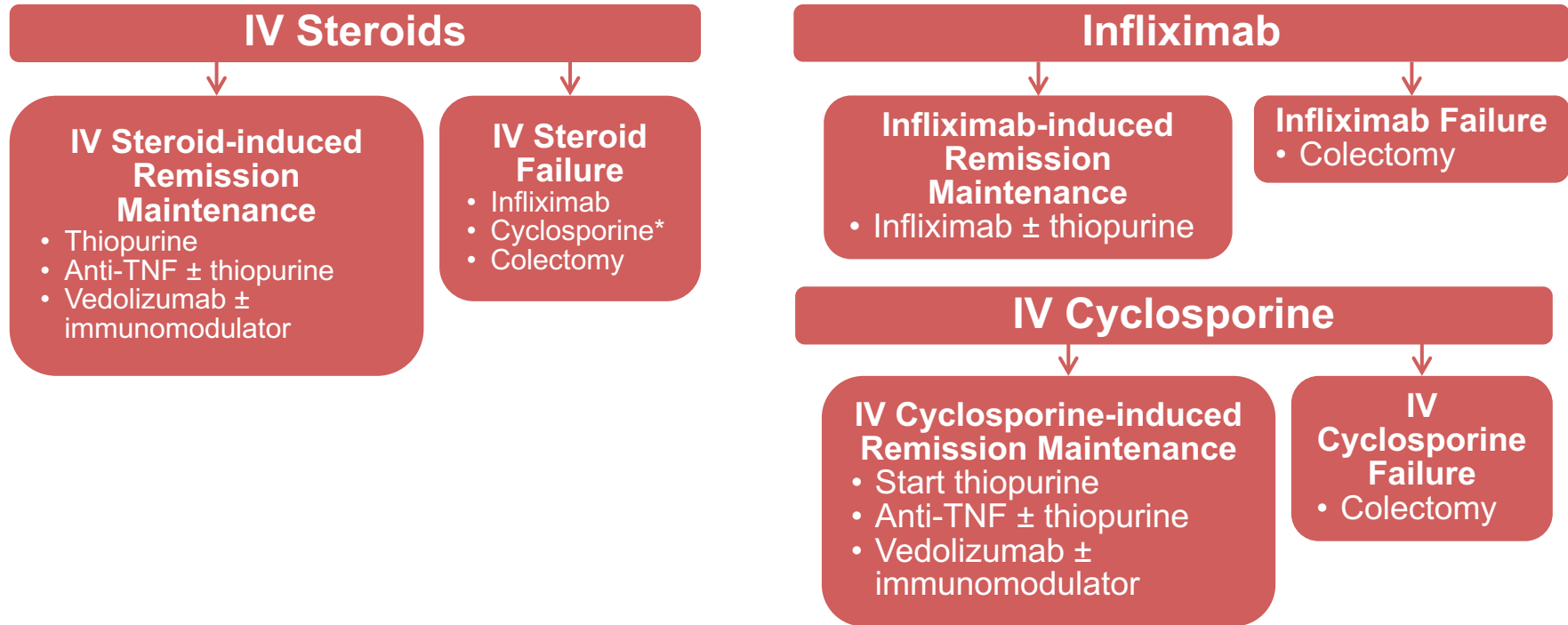
# AGA Ulcerative Colitis Care Pathway

## Therapy in High-risk Outpatients Not in Remission



# AGA Ulcerative Colitis Care Pathway

## Induction and Maintenance Therapy in High-risk Inpatients



\*Cyclosporine is not FDA-approved for UC

Dassopoulos T, et al. *Gastroenterology*. 2015;149(1):238-245.

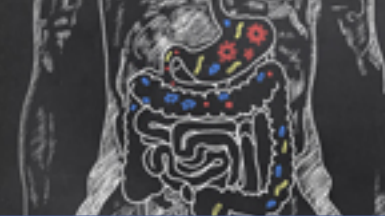


# Considerations of a “Top-Down” Strategy for Managing UC



- May gain control earlier in disease course
- May achieve a greater amount of remission and improved outcomes
- May improve quality of life
- There are no prospective data to support these claims

# Treat-to-Target



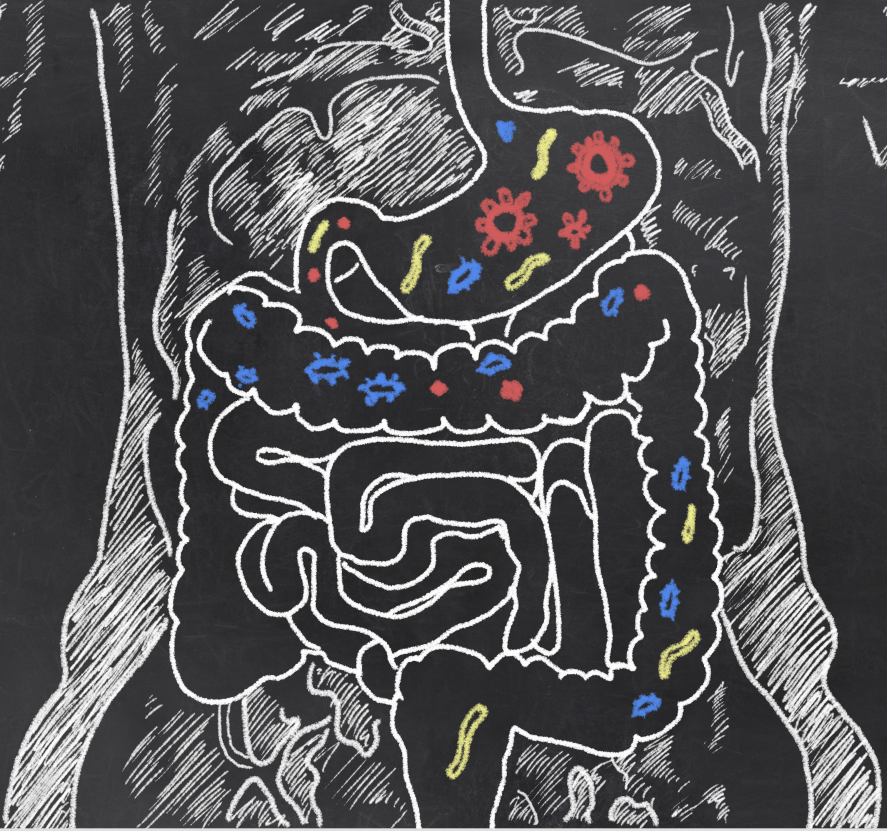
- Systematic assessment of an identified “target” and serial adjustment of therapy until the target is reached or until the patient refuses or we run out of options
- Primary goal: maximize health-related QoL
  - Control of symptoms
  - Normalization of function and social participation
  - Prevention of progressive structural damage
- Presumption is that achievement of target may improve QoL and changes the natural history of the disease



# SMART Goals



- Incorporate the use of operational measures to assess disease progression – both morphological and functional – in UC to optimize management
- Implement early, intensive therapy to facilitate durable remission



# Questions & Answers

Please complete the evaluation/credit request form found on your table and turn them in to the CME Outfitters staff on your way out.  
Thank you.

# Downloadable Resources



Presentation slides, the course guide booklet, and the credit request/evaluation form will be available for download at:

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