

Inflammatory Bowel Disease

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Clinical Director UK IBD Audit

Friday 25th November 2016

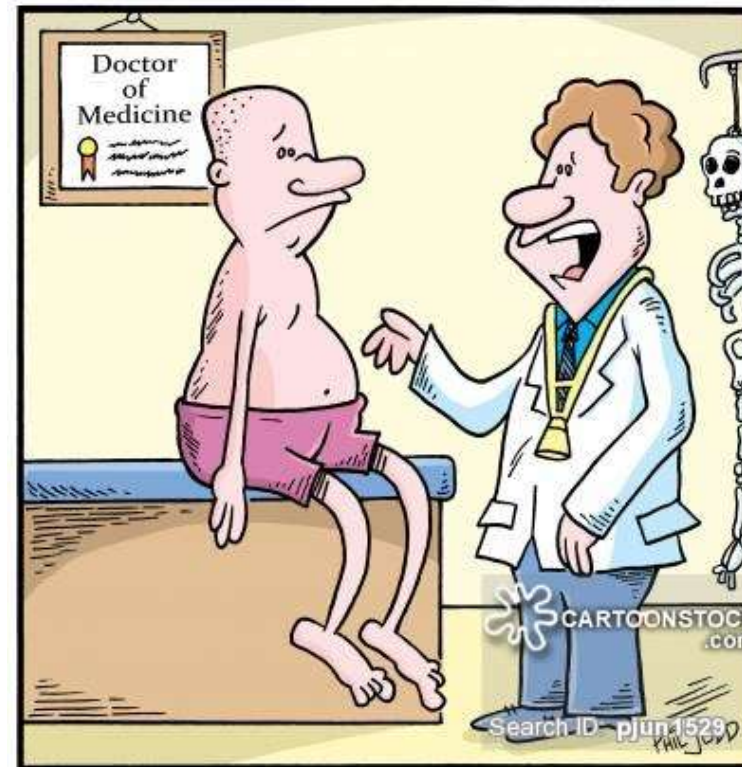


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Objectives

- Overview of IBD
 - Phenotype
 - Cause
 - Epidemiology
- Treatments
 - Novel approaches
- Implications for work and morality



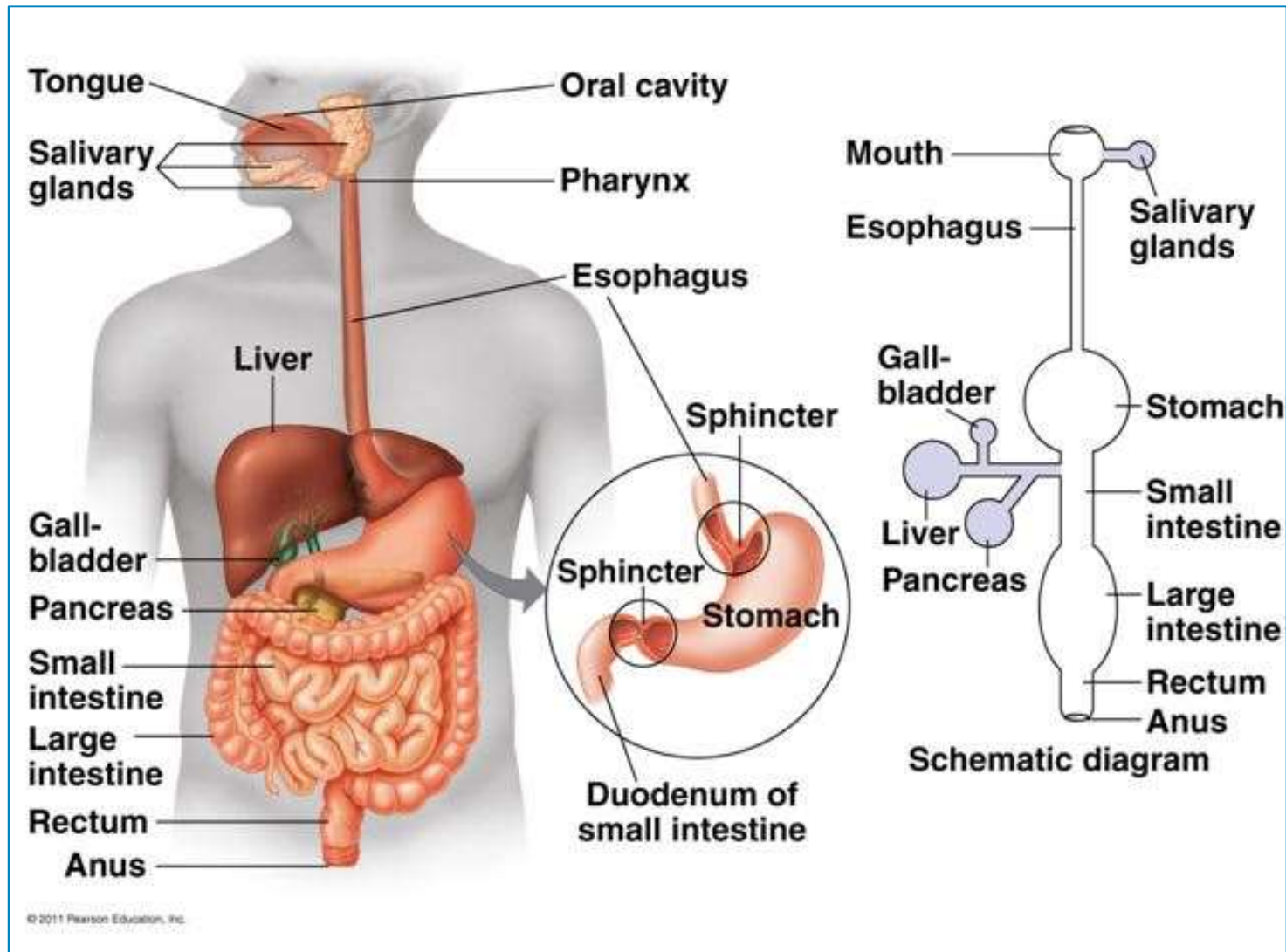
"Do I know much about incontinence?
No I was never good at Geography."



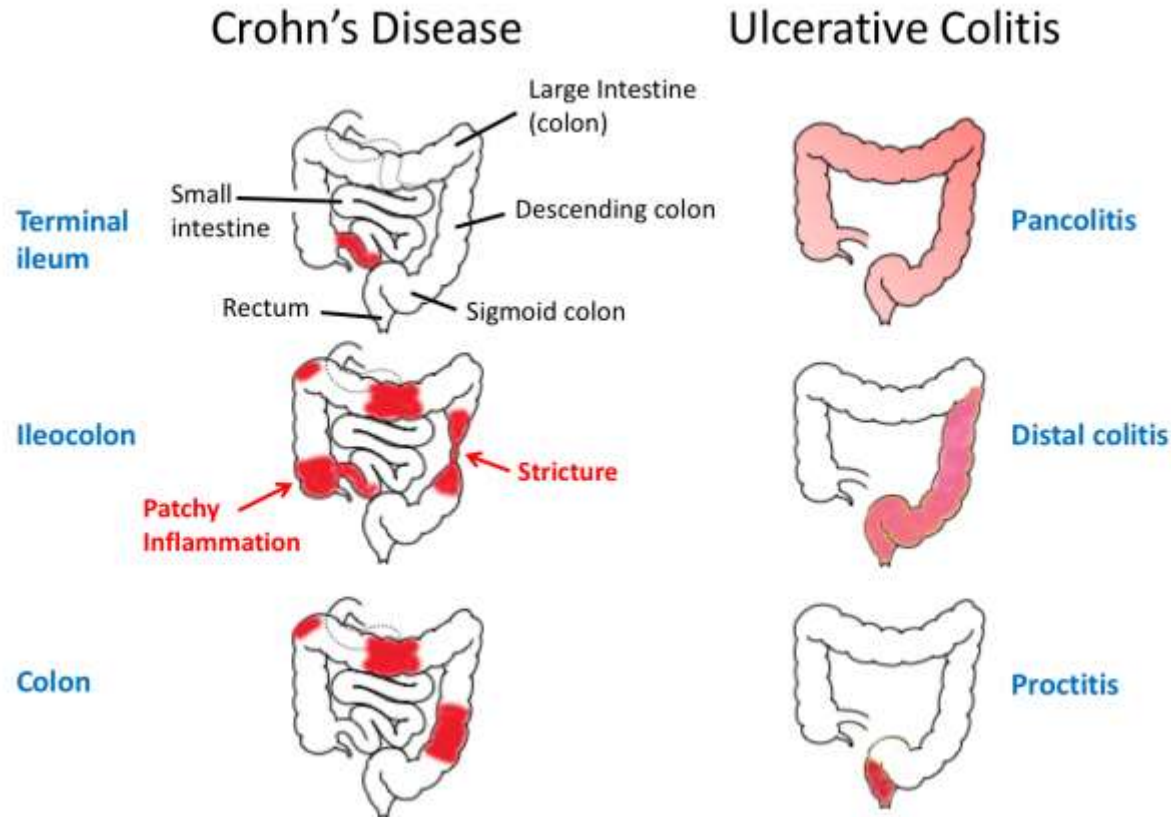
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Gastrointestinal Anatomy



Differences between UC and CD



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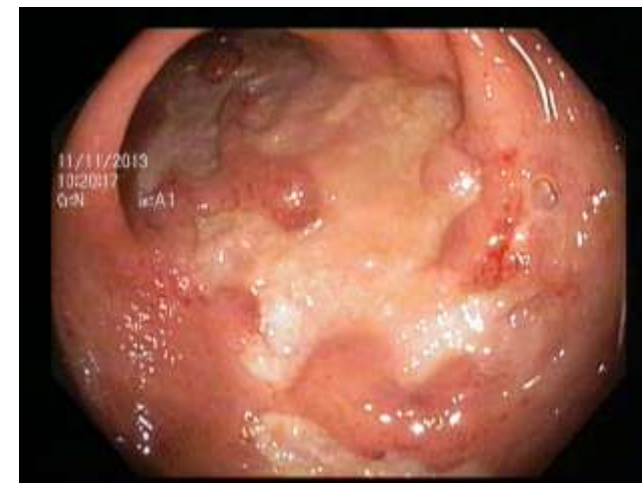
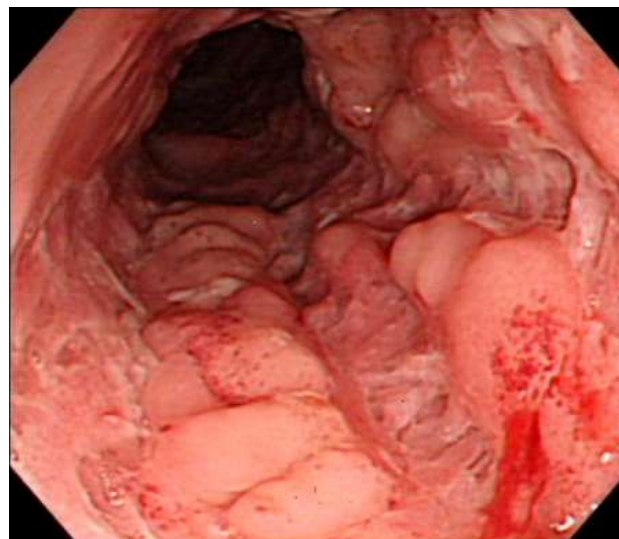
Normal



Ulcerative Colitis



Crohn's Disease



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Video Capsule Endoscopy



Ms A.B.

31 year old female

Bloody diarrhoea
BO every 30-60 min

FHx - None

SHx: - Social worker; trained nurse
- Non-smoker

Stool cultures -ve

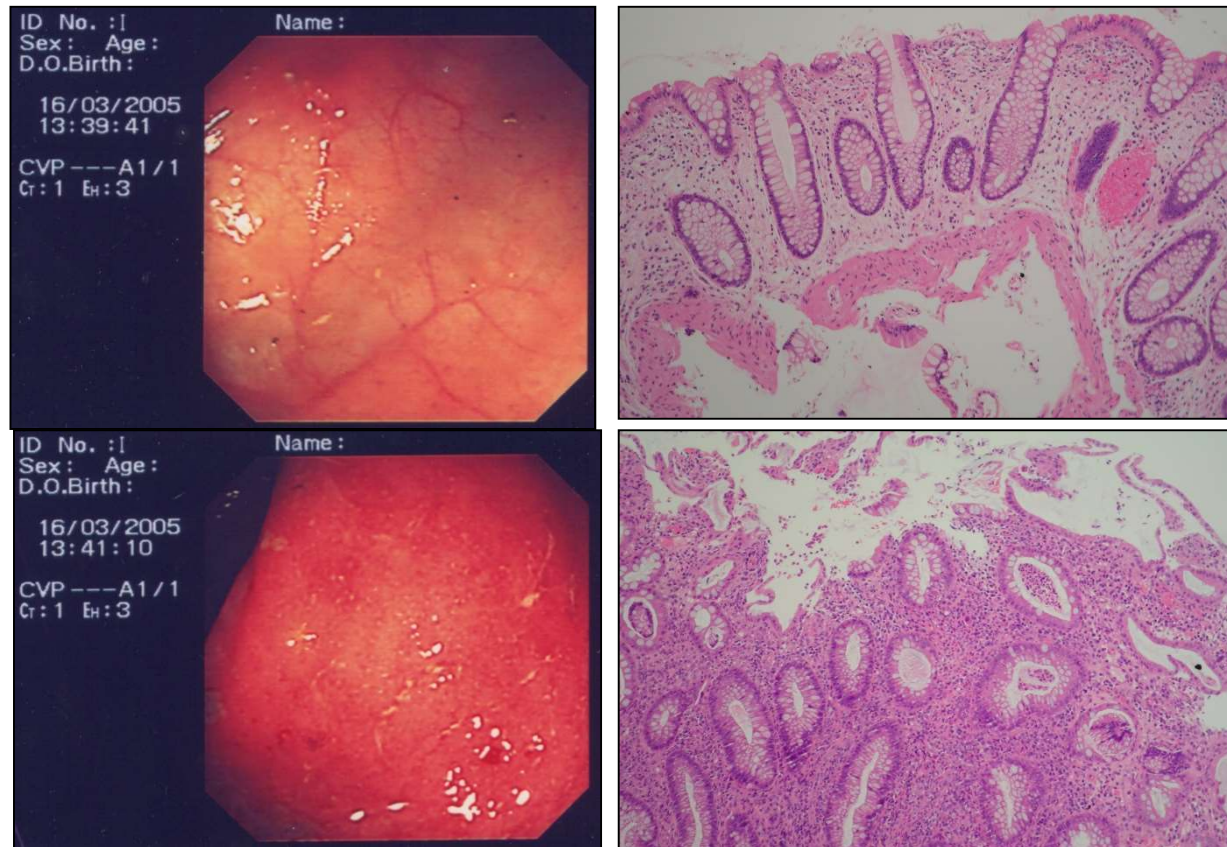


Flexible sigmoidoscopy
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Flexible Sigmoidoscopy

Inflammation limited to distal 10cm



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Ulcerative colitis diagnosed Setting higher standards

Regional Ileitis*

A Pathologic and Clinical Entity

BURRILL B. CROHN, M.D., LEON GINZBURG, M.D. AND GORDON D. OPPENHEIMER, M.D.

From the Mount Sinai Hospital

New York

* Reprinted from *J. A. M. A.*, 99: 1323-1328, 1932, with permission of the publisher. One figure has been omitted.

This classic paper gives the first clear and comprehensive description of an entity, regional ileitis, which the authors segregated from the heterogeneous group of "benign granulomas" of the intestine.

A. B. G.

NOVEMBER, 1952

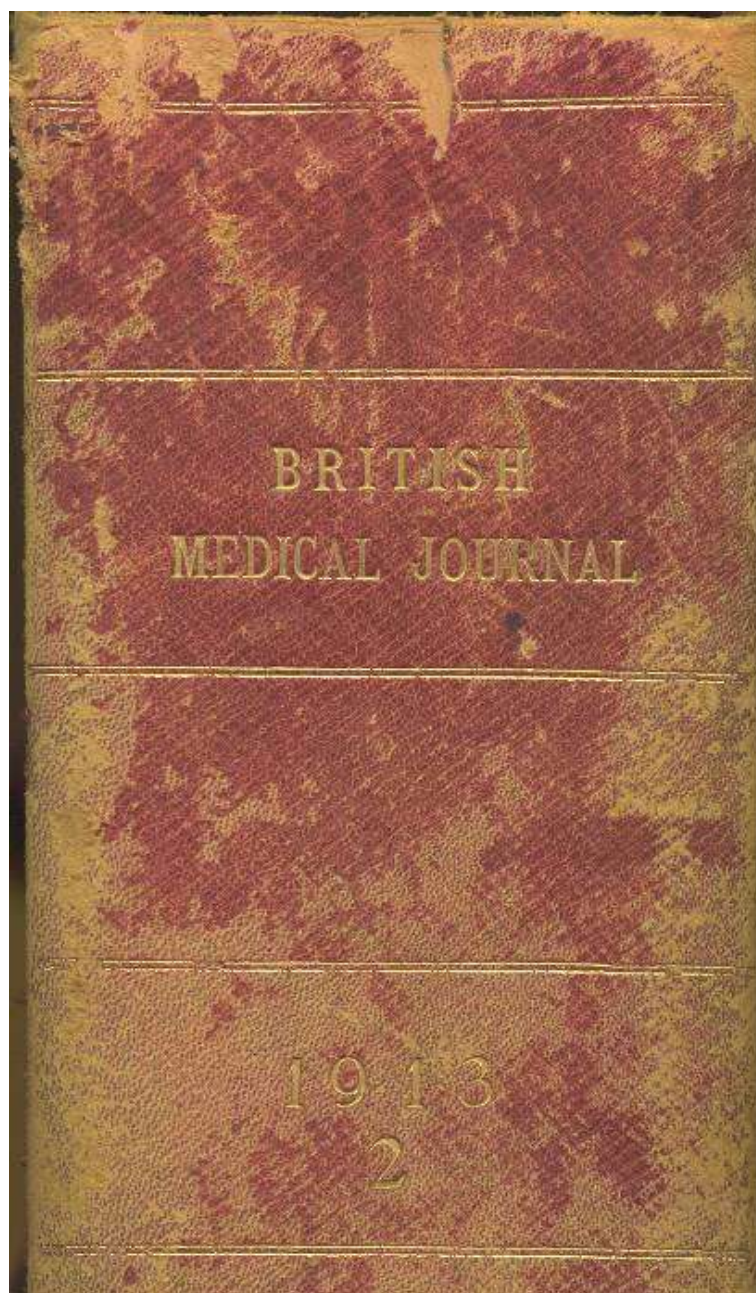
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Chronic Interstitial Enteritis

By **T. K. DALZIEL, M.B., C.M., F.R.F.P.S.G.**
SURGEON, WESTERN INFIRMARY, GLASGOW

British Medical Journal **1913**;2:1068-1070

I have pleasure in drawing your attention to this condition, which, I think, has not yet been fully described.

Twelve years ago I saw a professional colleague, suffering from obstruction of the bowels of a fortnight's duration, previous to which he had had for several weeks numerous attacks of colic, slight attacks of diarrhoea with no tenderness over the abdomen, and very slight rise in temperature, with no appreciable alteration in the pulse-rate. When seen by me the abdomen was not distended nor were the muscles rigid, but to the hand gave a sense of putty-like resistance. As vomiting was persistent, I concluded that there might be an obstruction high up, and so opened the abdomen, to find the whole of the intestines, large and small alike, contracted, rigidly

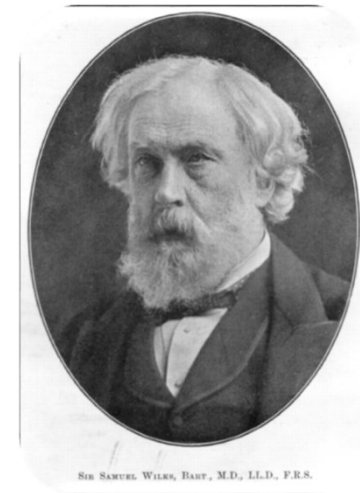


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“MORBID APPEARANCES IN THE INTESTINES OF MISS BANKES”

Wilkes S.
Medical Times and Gazette. 1859;2:264-265



The Father of Ulcerative colitis?

First reliable description

- AD 150

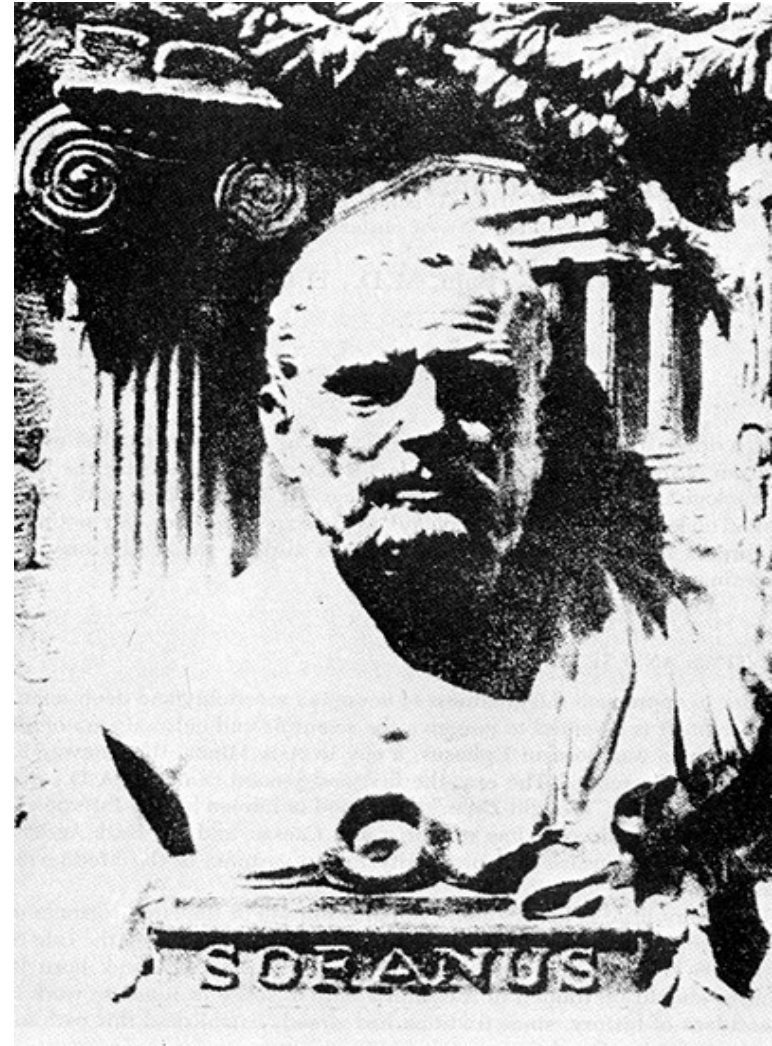
Greek Physician

- Doctors only for slaves and foreigners

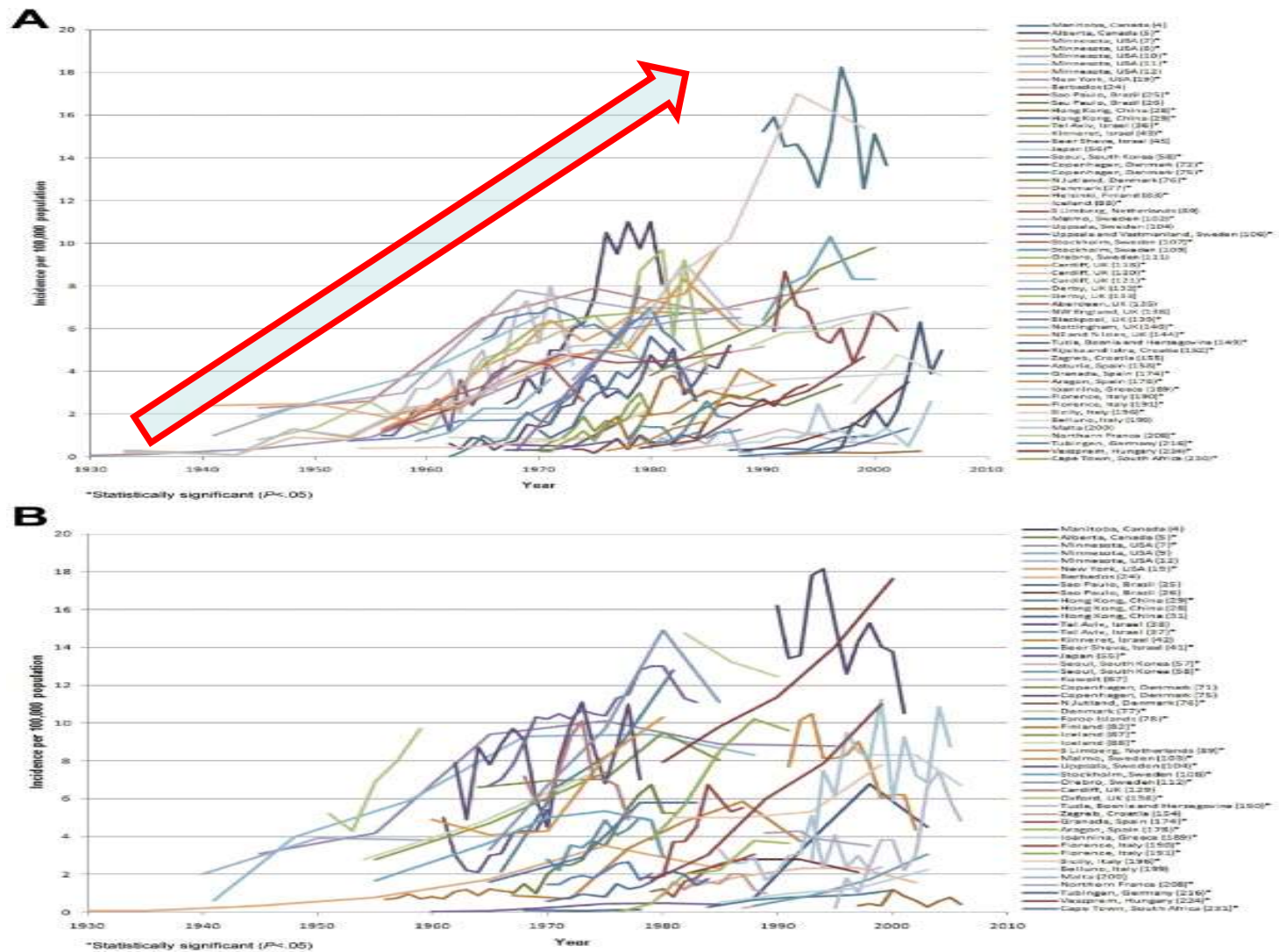
Father of O&G and also did some paediatrics

- Textbook lasted 1500 years

Named **SORANUS**



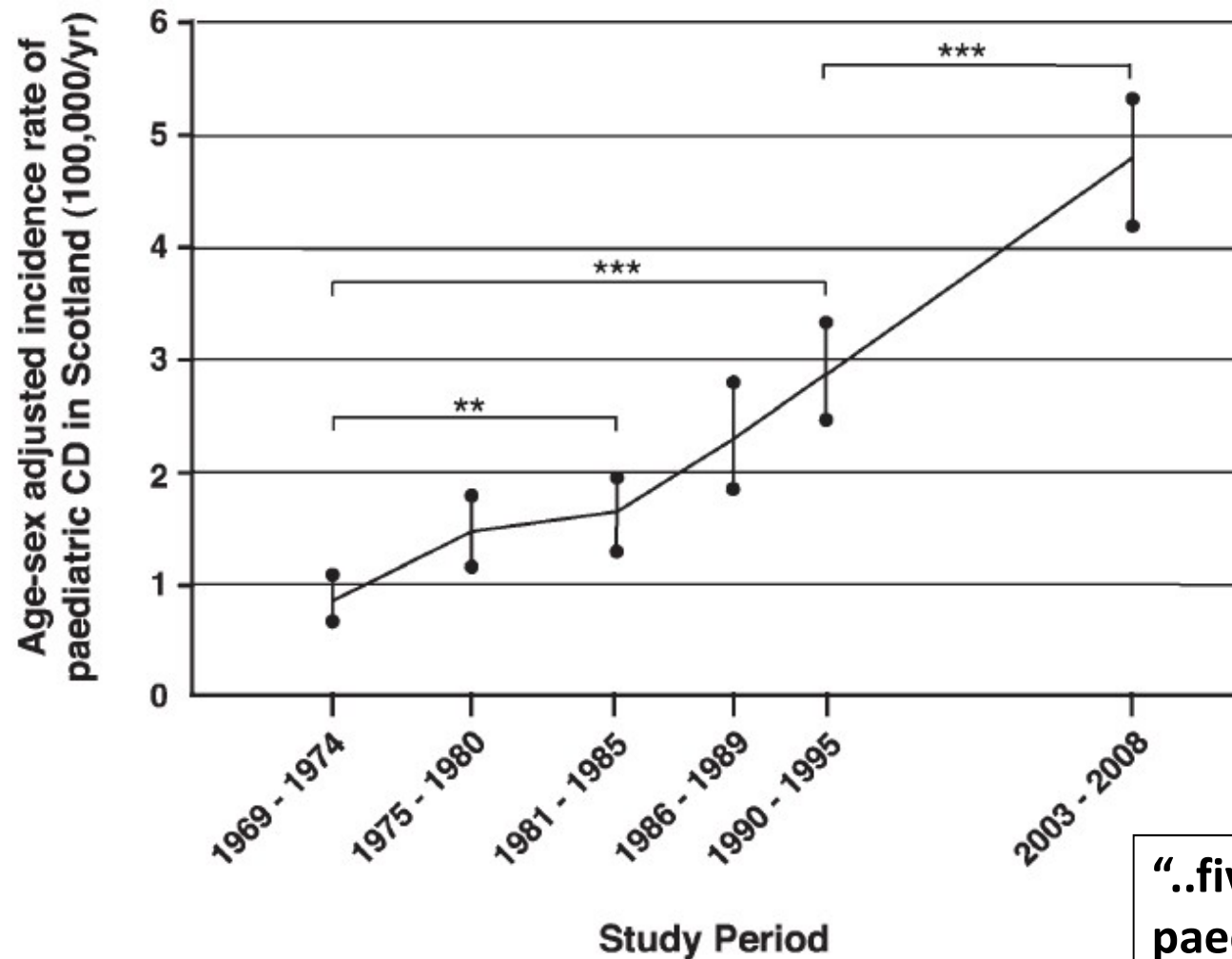
Rising incidence rates: CD and UC



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Molodecky et al., Gastroenterology Volume 142, Issue 1 2012 46 - 54.e42



“..five-fold increase in
paediatric Crohn’s
disease in 34y..”

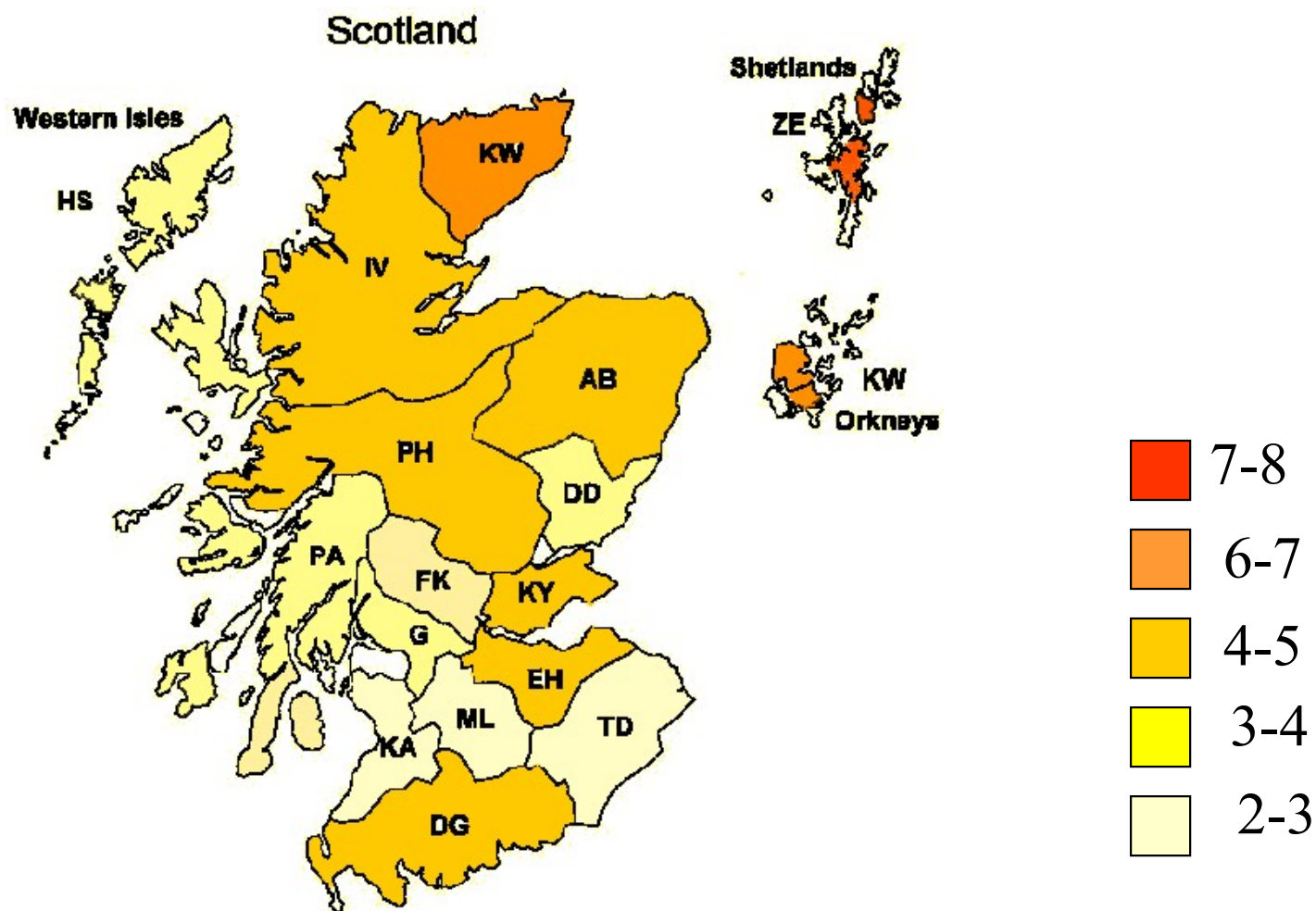


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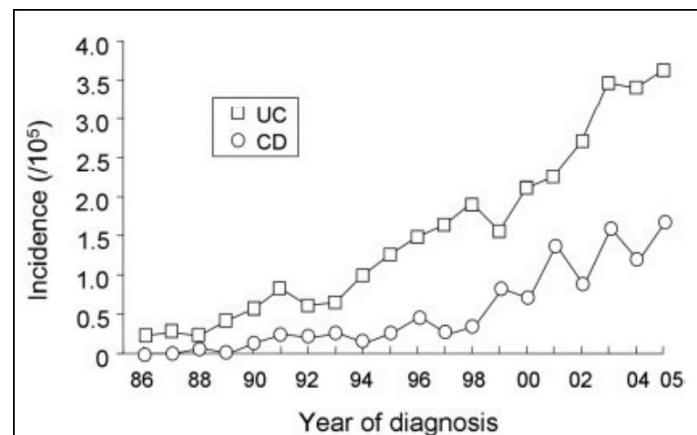
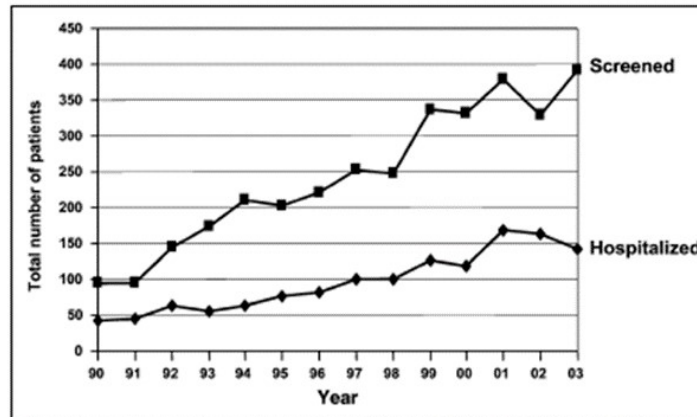
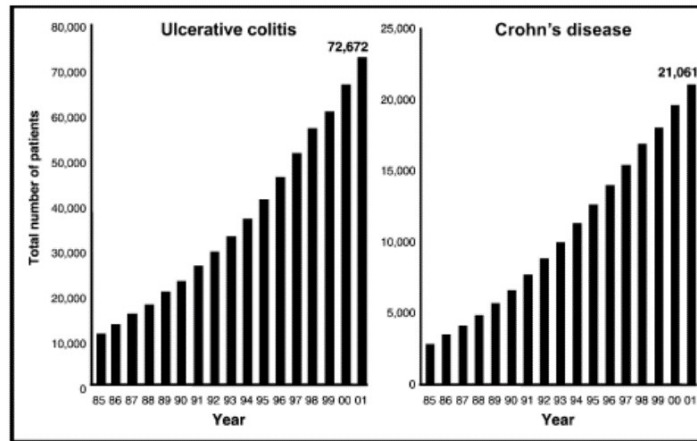
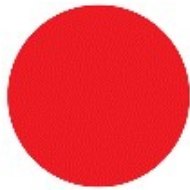
Henderson P et al. Inflammatory Bowel Diseases 2012; 18(6):999-1005.

Incidence (per 100,000 per year) of Juvenile onset IBD by postcode area



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Developed world:

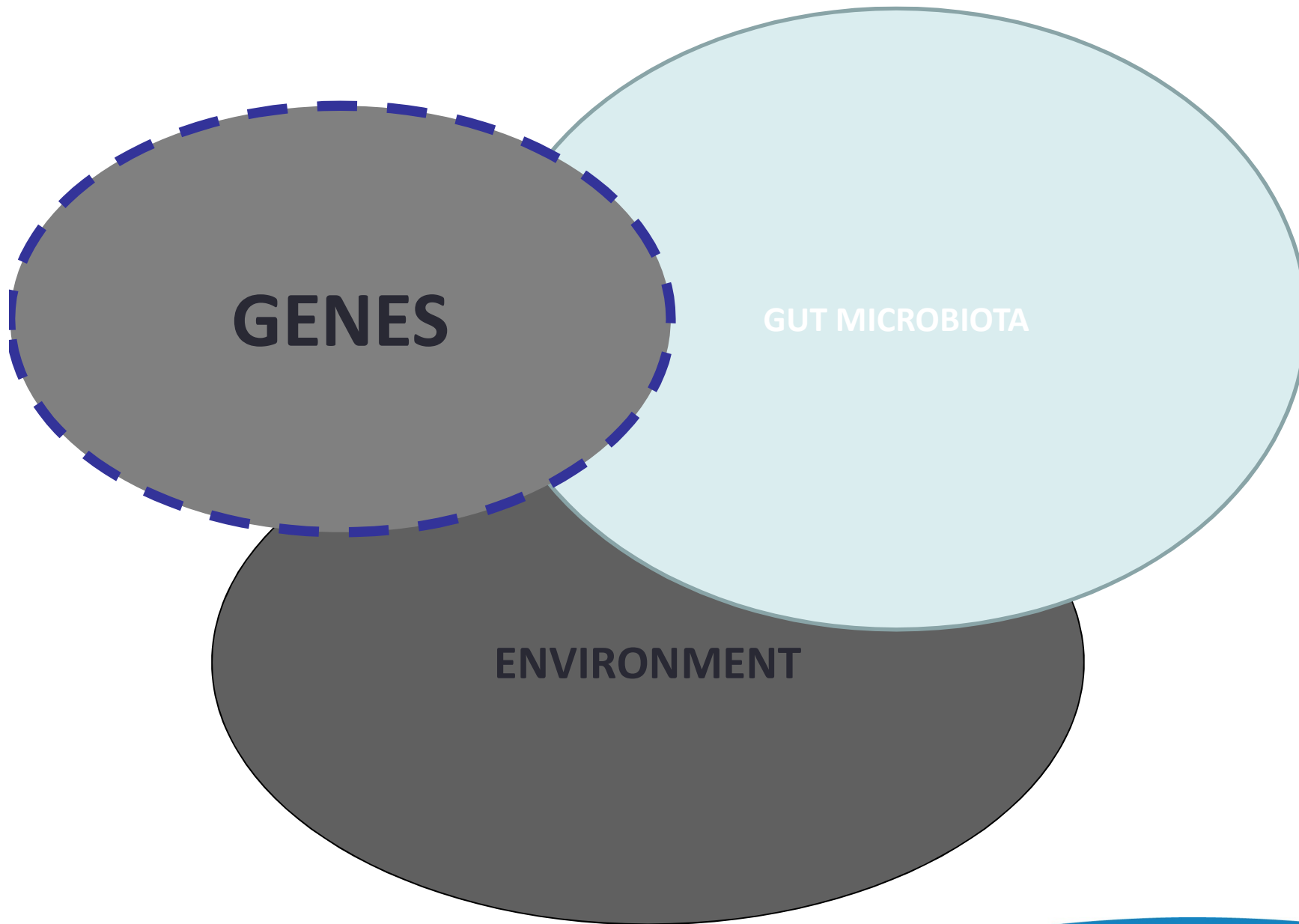
- Massive ↑↑ in IBD in last century

Developing world:

- ↑↑ in recent years as countries adopt Western lifestyle

Cannot be explained by genetics ...

... rather, must be related to drastic environmental changes of last century and the not yet adapted (predisposing) genetic background of a sub-fraction of population



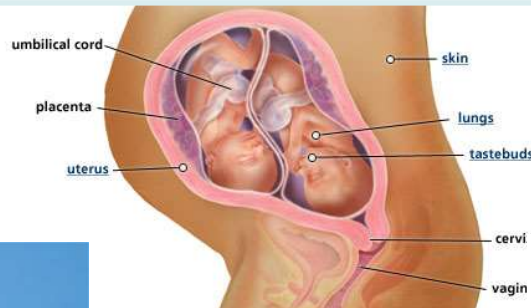
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A positive family history is the strongest known risk factor in the development of Crohn's disease

Sibling relative risk (λ_s): 25-35

Monozygotic twin concordance: 45%



RELATIVE RISK OF CROHN'S DISEASE

MZ	1 st degree	sibling	parent	offspring
667	5-35	25-42	12-16	2-30

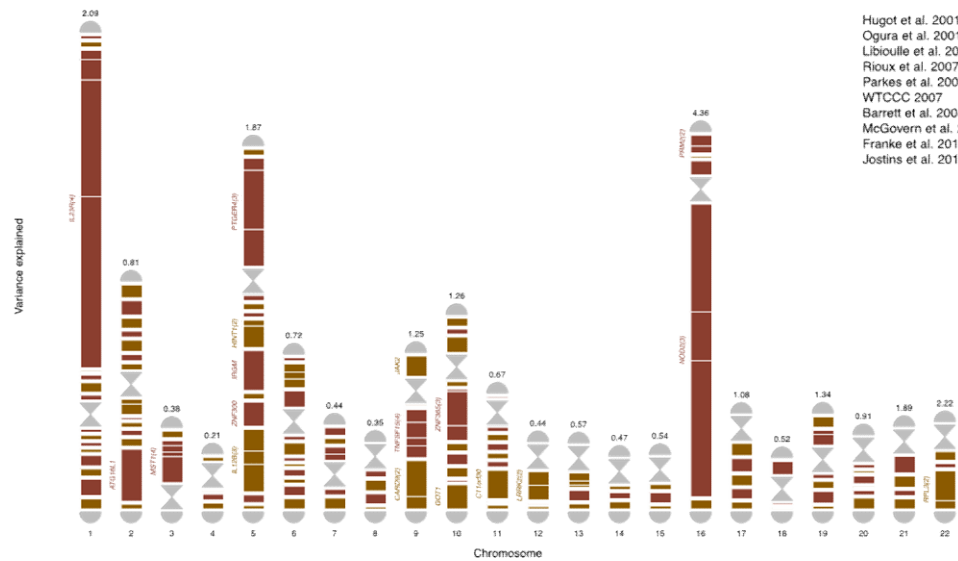


for Physicians

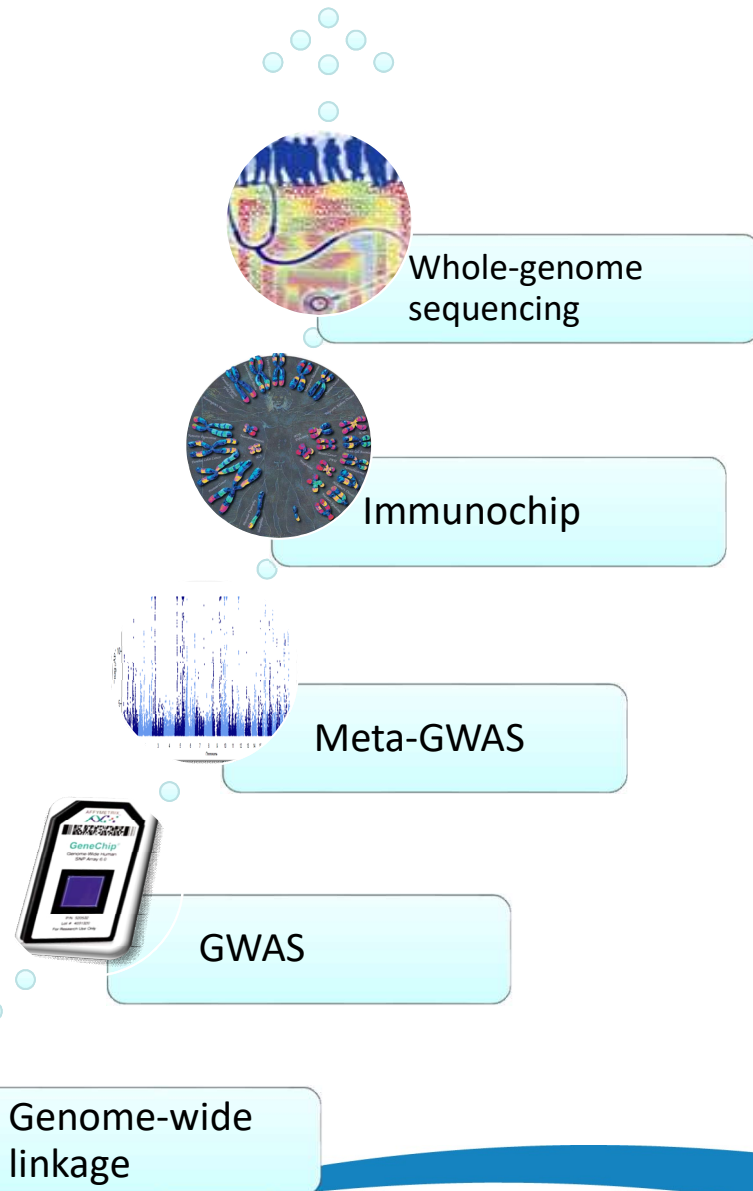
Russell RK et al: IBD: a Family Affair. *Best Practice Clinical Gastro*
2004;18:525-39

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~200 independent IBD susceptibility loci



Hugot et al. 2001
Ogura et al. 2001
Libioulle et al. 2007
Rioux et al. 2007
Parkes et al. 2007
WTCCC 2007
Barrett et al. 2008
McGovern et al. 2010
Franke et al. 2010
Jostins et al. 2012



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Twin studies

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1980's

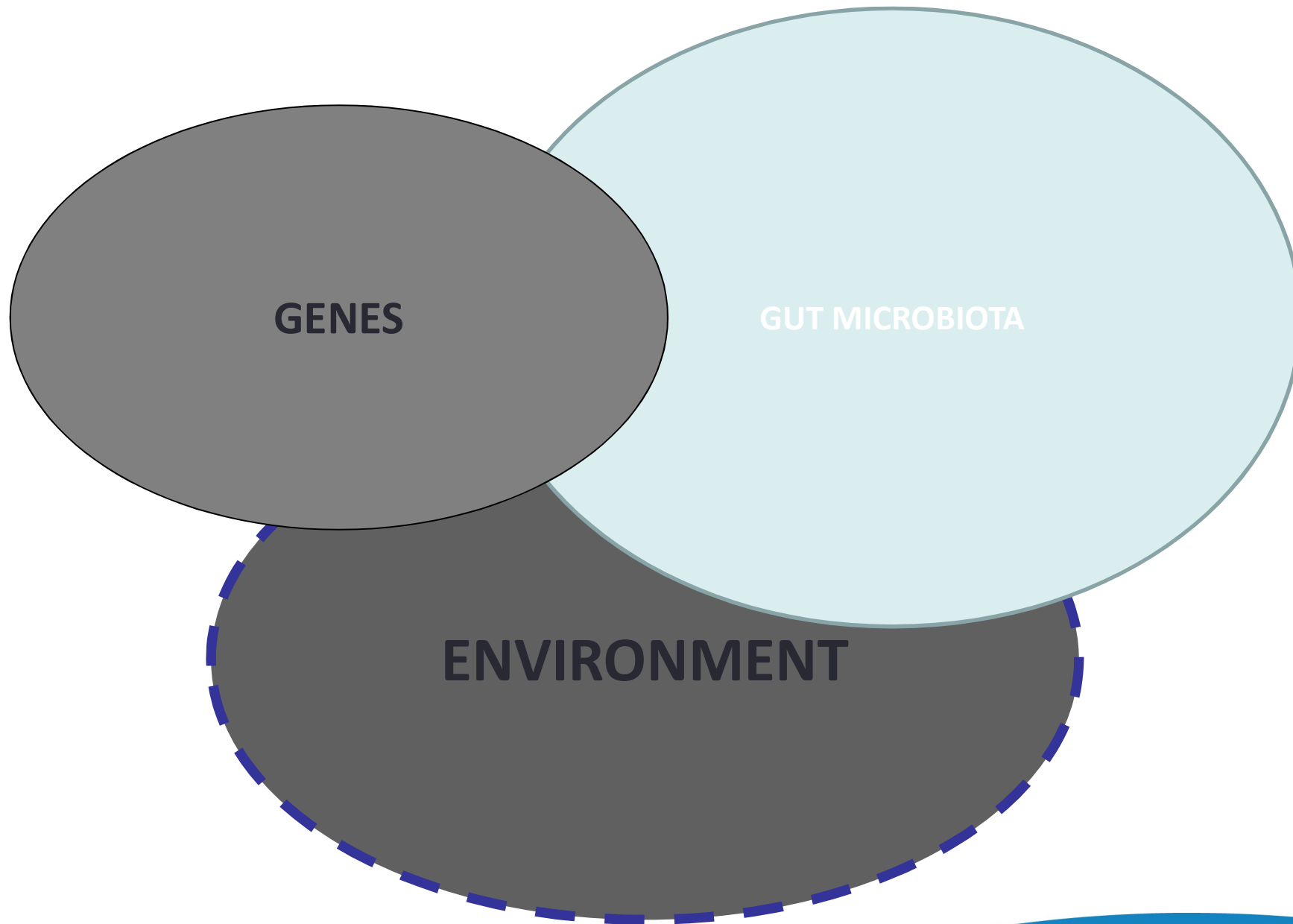
2001

2007

2008

2011

2013



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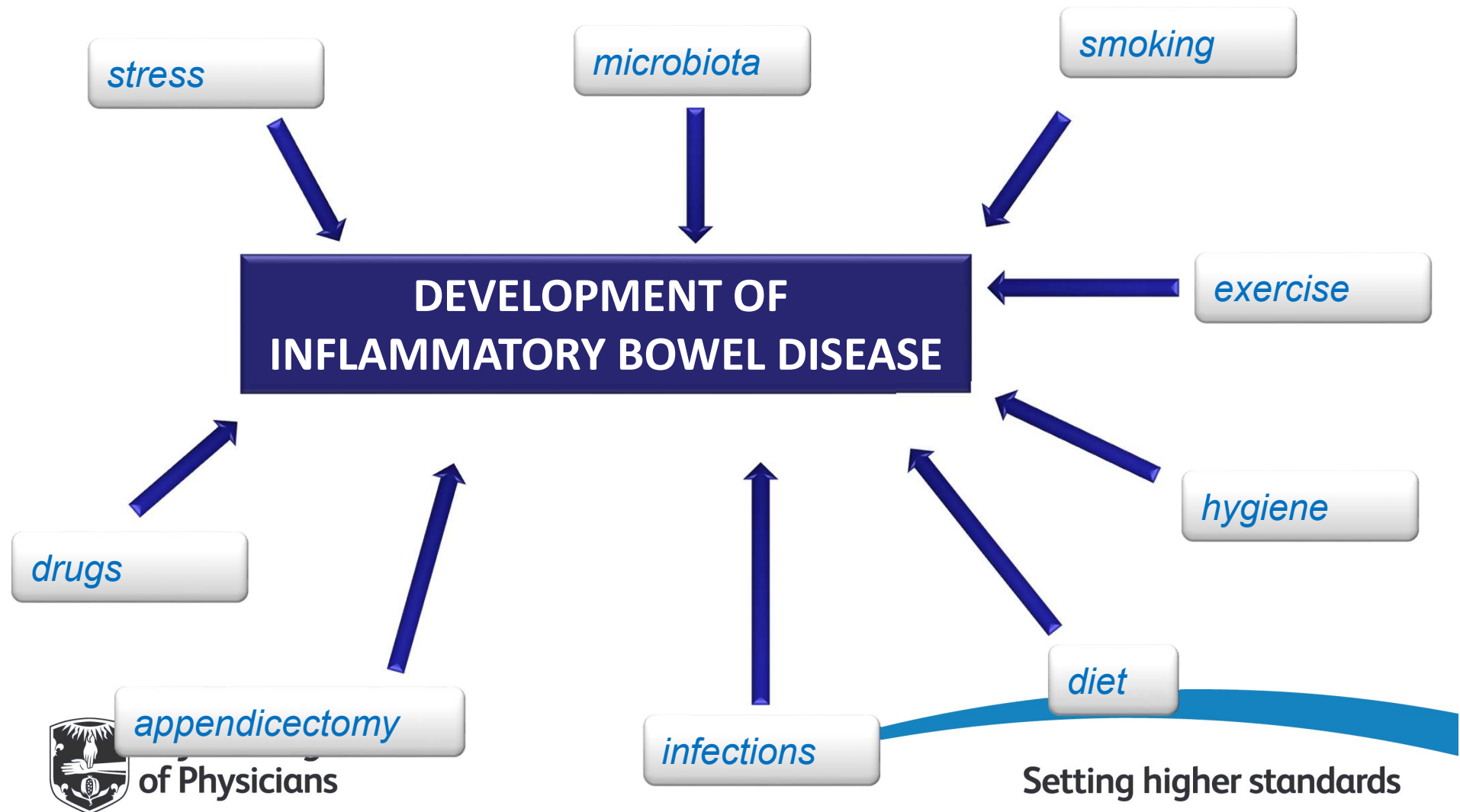
TOP 10 WORST PROCESSED FOODS



- 1 Chicken nuggets 24%
- 2 Hot dogs 19%
- 3 Fake cheese 14%
- 4 Lunchables 13%
- 5 Spam 9%
- 6 Twinkies 5%
- 7 Soda 5%
- 8 Artificial sweeteners 4%
- 9 Diet versions 4%
- 10 French fries 3%




The extended IBD 'exposome'

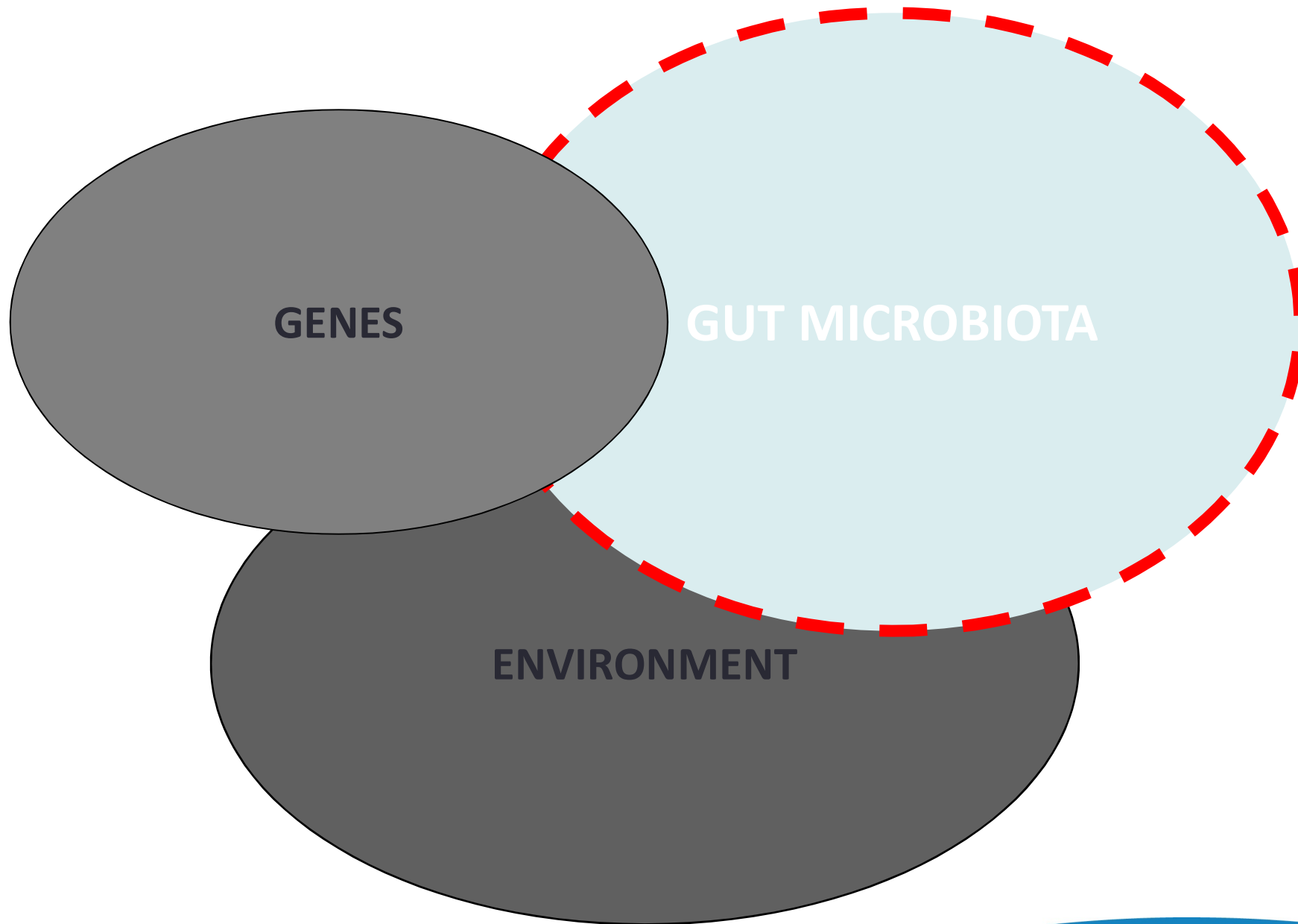


Smoking

A stylized illustration of a person's face in profile, smoking a cigarette. The person has a visible orange flame on their cheek. Thick, grey smoke rises from the cigarette, filling the left side of the image. The background is dark, and the overall style is graphic and somewhat somber.

**Detrimental in Crohn's
Protective in UC**

**? Mechanisms – probably
not related to nicotine**

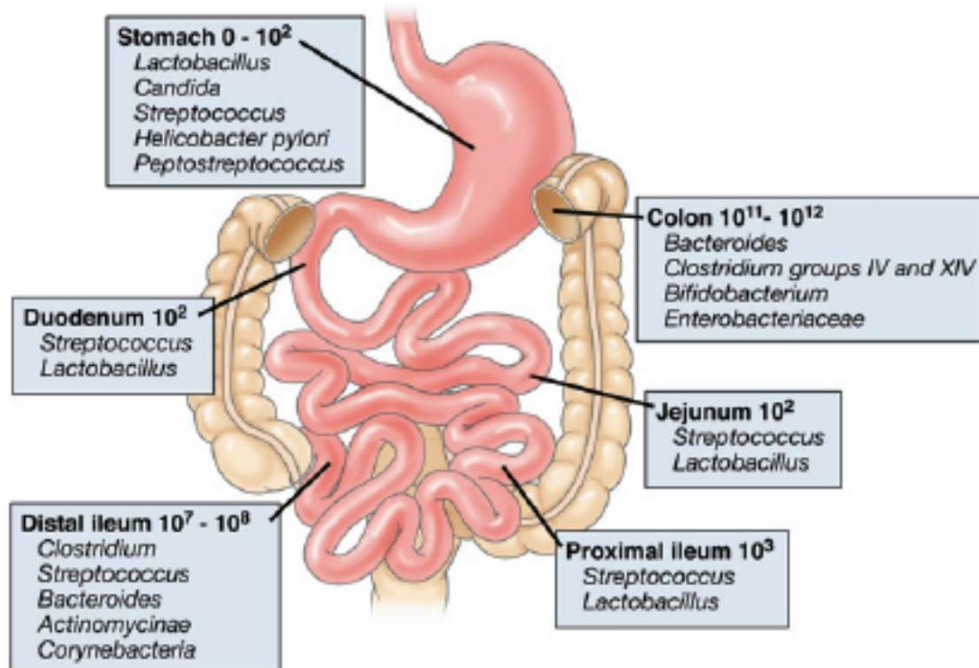


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Intestinal homeostasis essential to provide protection against pathogens, ***whilst avoiding excess inflammatory response to commensal flora***

GI tract colonised by $\sim 10^{14}$ bacteria during early life



Function of commensal flora

- Nutrient processing
- Absorption
- Development of mucosal immune system

- Angiogenesis
- Epithelial renewal

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Bacteria: the clinical evidence

CD, UC and pouchitis:

- localised to intestinal segments with $\uparrow\uparrow$ bacterial loads
- abnormal microbial composition
- serologic & T-cell responses to enteric microbial antigens

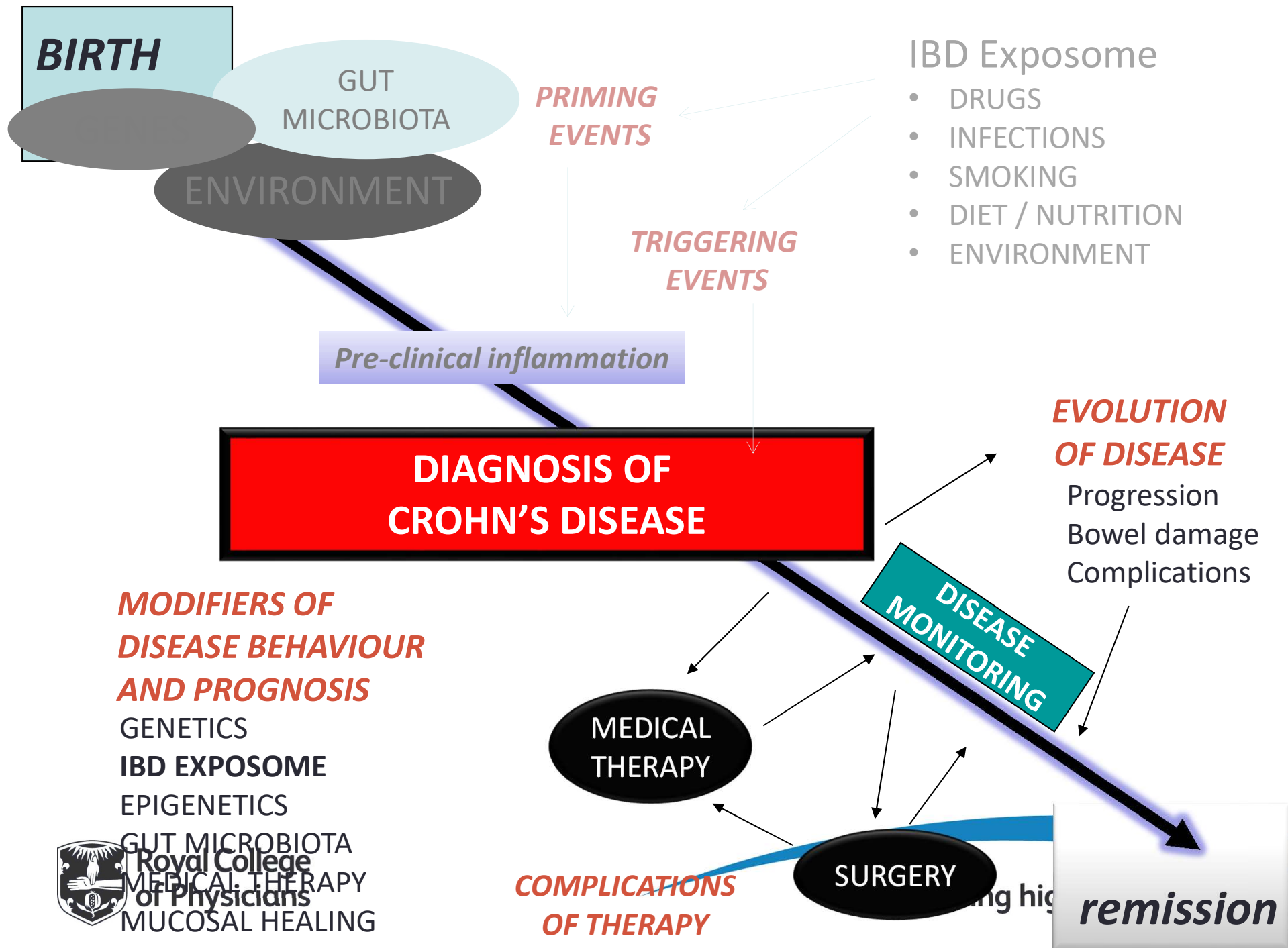
\uparrow Mucosal-associated bacteria & \uparrow mucosal invasion and translocation in IBD

Faecal stream diversion:

- prevents and treats CD & pouchitis
- inflammation recurs on restoration of faecal flow

Antibiotics treat pouchitis \pm CD colitis

Probiotics prevent relapse of pouchitis & UC



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TREATMENT OF IBD

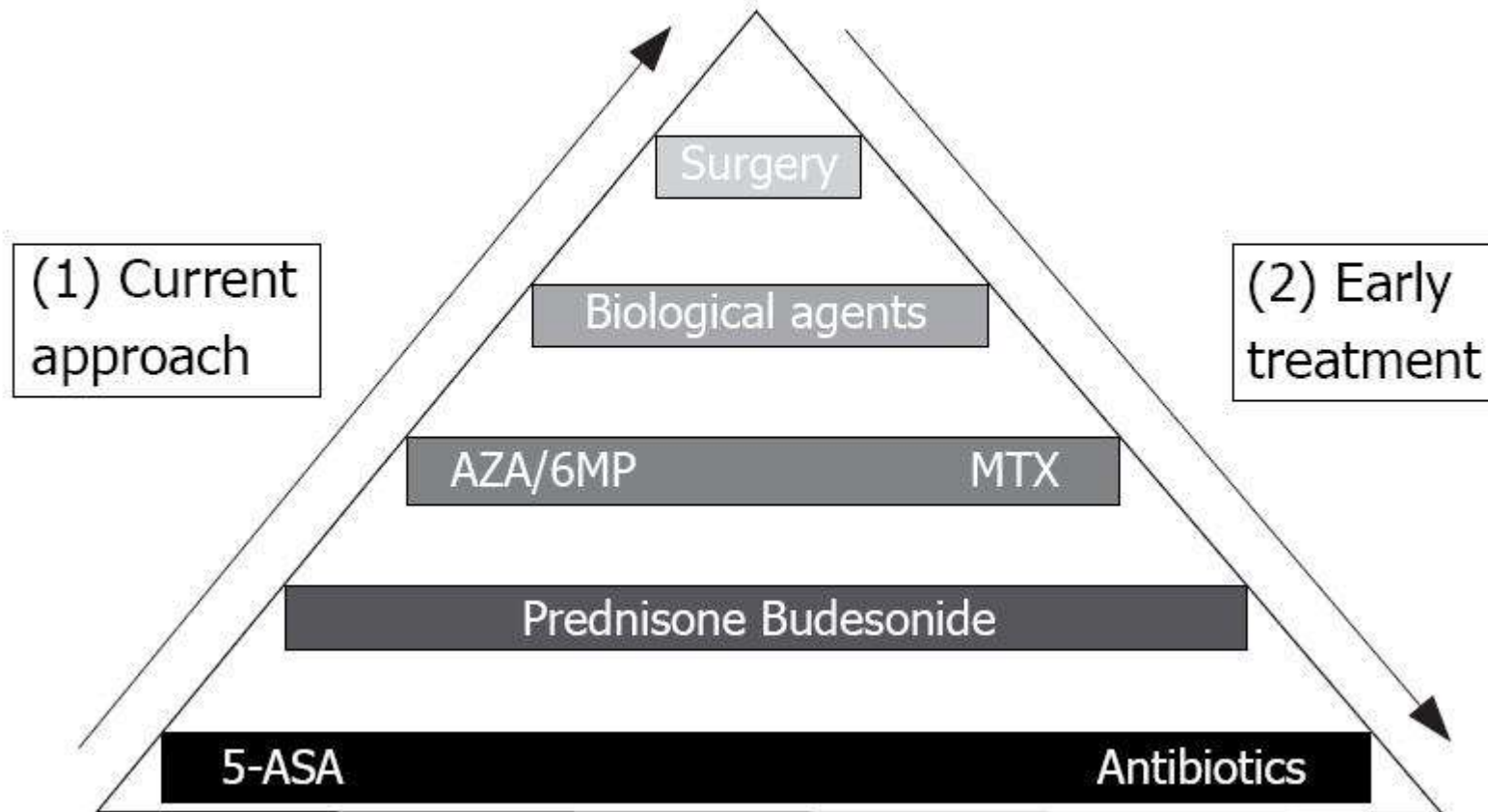


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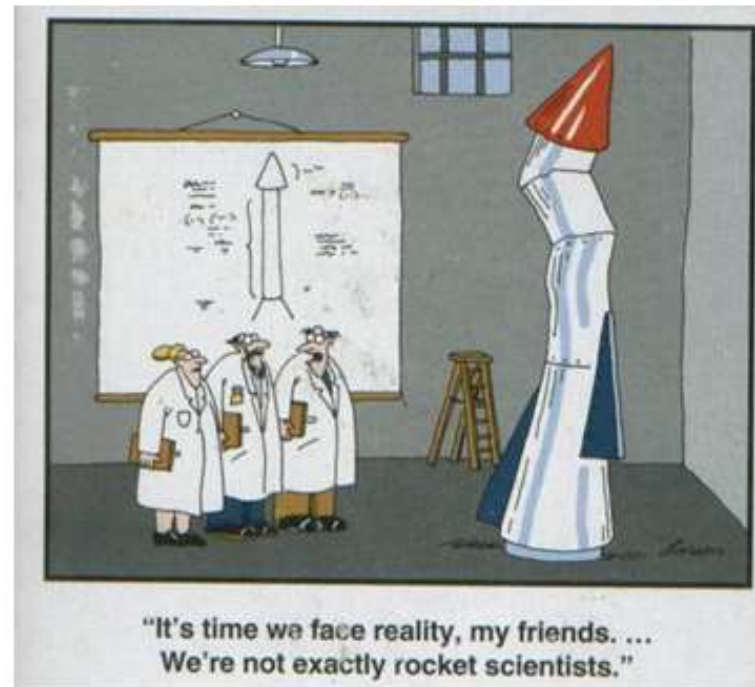
Inverted pyramid in IBD treatment



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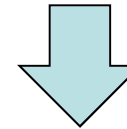
Ulcerative Colitis



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Crohn's Disease



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Outcomes

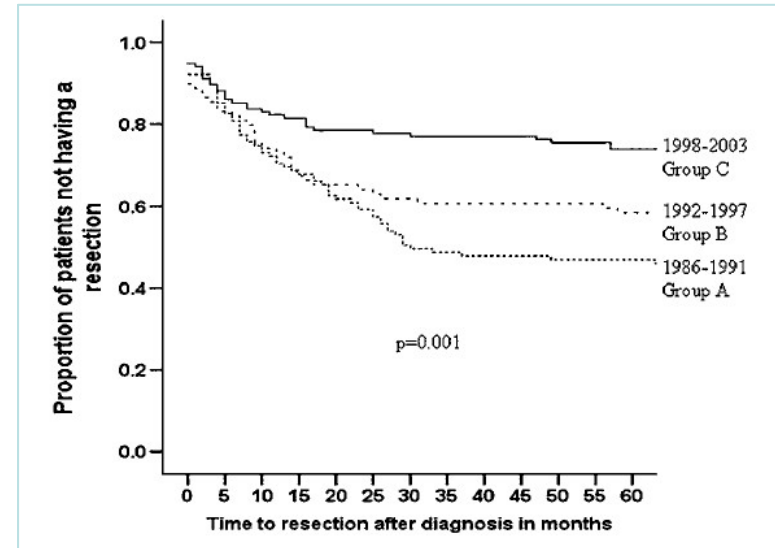
Surgery

Surgery in Crohn's disease not curative

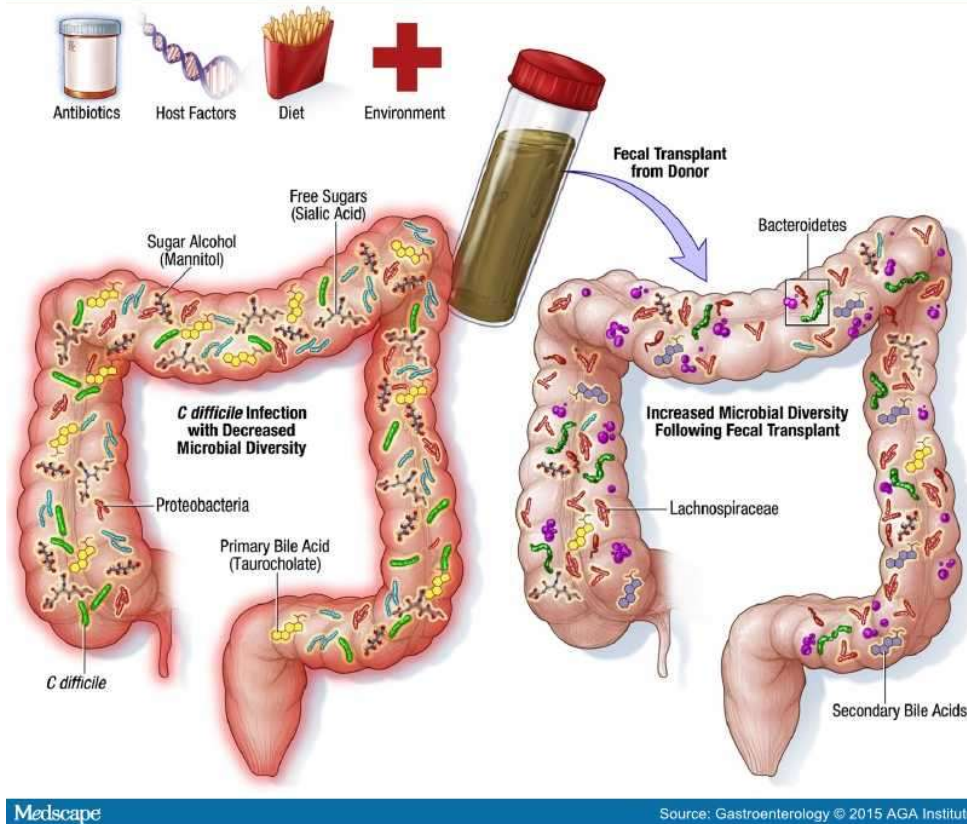
Surgery in UC is curative

Acute severe Ulcerative colitis is a medical emergency but mortality has improved from 25% to less than 1%

Added psychological morbidity worsens outcomes



Novel Treatments



Faecal
microbial
transplants
and vinegar

Not yet for IBD!



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Low Risk of Unemployment, Sick Leave, and Work Disability Among Patients with Inflammatory Bowel Disease: A 7-year Follow-up Study of a Danish Inception Cohort

Marianne K. Vester-Andersen, MD, PhD, Michelle V. Prosberg, MD,* Ida Vind, MD, PhD,* Mikael Andersson, MS,[†] Tine Jess, MD, DMSci,^{†,‡} and Flemming Bendtsen, MD, DMSci**

Sick leave and work disability increased
BUT – Only 5.8% in patients with CD
Especially males over 55 years



Patients With Ulcerative Colitis Miss More Days of Work Than the General Population, Even Following Colectomy

MARTIN NEOVIUS, ELIZABETH V. ARKEMA, PAUL BLOMQVIST, ANDERS EKBOM, and KARIN E. SMEDBY

Clinical Epidemiology Unit, Department of Medicine, Solna, Karolinska Institutet, Stockholm, Sweden

19714 patients

15% of UC had disability pension v 11%

Median annual days lost = 0

Colectomy did not return days lost to baseline

Costs of Care

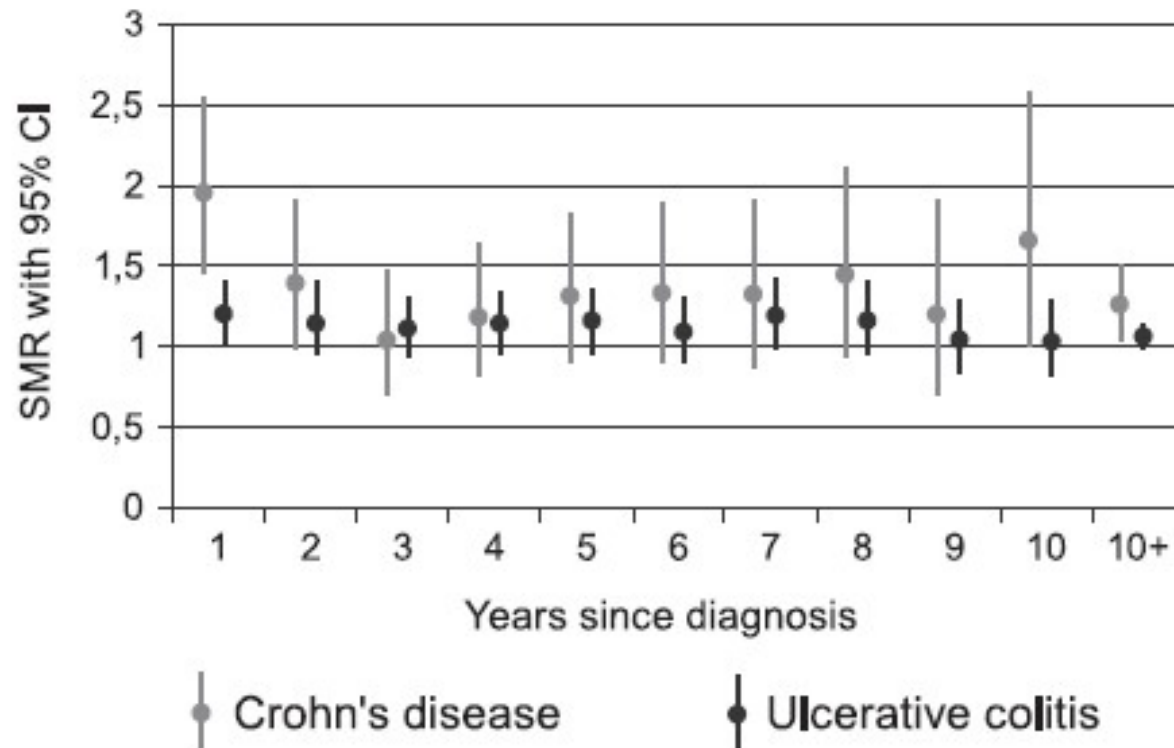
A mean 3 month cost for care for

CD – €1625

UC – €595

Shifted away from surgery and inpatient costs towards drug therapy

Mortality



SMR
CD 1.33
UC 1.10

Jussila et al JCC 2015

Conclusions

Inflammatory bowel disease is a common important long term condition

Incidence and prevalence are rising

Treatments are increasingly effective

Remains considerable morbidity

Excess mortality

High quality effective multidisciplinary care is effective

Acknowledgements

CEEu

- Aimee Protheroe
- Susan Murray
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HQIP

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CCUK

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BSG

- Ian Forgacs
- Jon Rhodes
- John Williams

NHSE

- Mike Glynn

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A photograph of Barack Obama speaking at a podium. He is wearing a dark suit, a white shirt, and a yellow and blue striped tie. He is gesturing with his right hand near his face. The background is dark and out of focus.

“CHANGE WILL NOT COME IF WE WAIT FOR
SOME OTHER PERSON OR SOME OTHER TIME.

WE ARE THE ONES
WE'VE BEEN WAITING FOR.

WE ARE THE CHANGE THAT WE SEEK.”

BARACK OBAMA