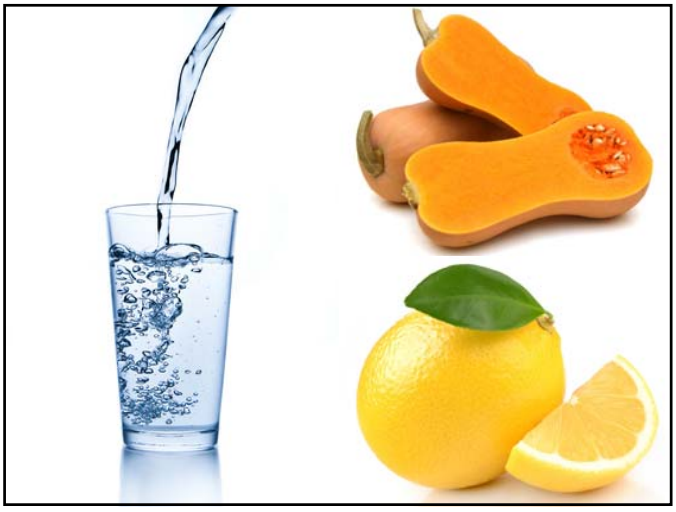
MASTERING DIGESTIVE ASSESSMENT

GETTING TO THE ROOT OF DIGESTIVE INFLAMMATION AND DYSBIOSIS

IN THIS PRESENTATION

- 3 tests that will change everything for your clients
- 5 things to find out in your consultations
- The pros and cons of the most popular tests
- 5 things you cannot afford to miss with your clients



HOW DO DIGESTIVE IMBALANCES AFFECT OUR CLIENTS?

WHY SHOULD WE CARE?

5 PRINCIPLES OF GUT HEALTH

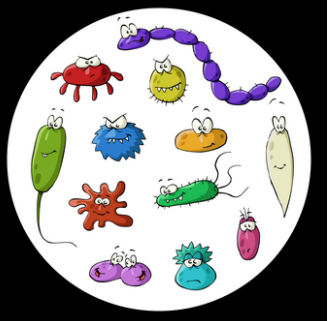
- Transform the digestive environment
  - FIX THIS PLACE UP
- Restore balanced micro biome
  - PROTECTIVE PROBIOTIC PARTY
- Everything responds to good nutrition
  - NUTRIENTS FOR THE WIN
- Modify behaviours
  - STOP MAKING THINGS WORSE
- Transform stress
  - FUN = DIGESTIVE TONIC

3 STEPS TO THE ROOT OF DYSBIOSIS

GOOD INTERVIEW SKILLS

RELIABLE TESTING

PERSPECTIVE



HOW TO ASK??

OPEN-ENDED
(NO YES/NO)

HISTORICAL
(PERSONAL AND FAMILY)

SPECIFIC, DEEPER
(ONSET, CONTEXT ETC.)

ASK QUESTIONS AROUND:

- GERD, heartburn, reflux
- Yeast
- Small intestinal imbalances
- Food (including gluten)
- Amoebic parasites

IF YOU MISS THIS YOU'RE PICKLED!

H PYLORI

BACTERIAL INTERACTIONS

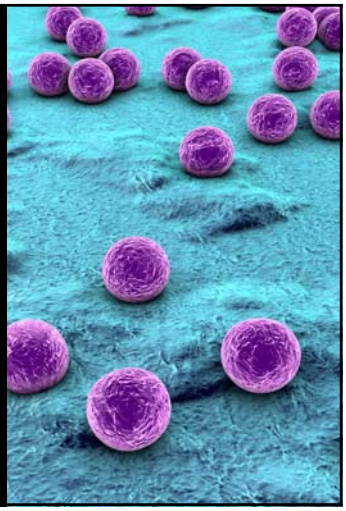
AMOEBIC PARASITES

ENVIRONMENTAL MOULD EXPOSURE

FOOD AND LIFESTYLE FACTORS

MY GO-TO TESTS

- BIO HEALTH LAB 401 H DOCTORS DATA COMPREHENSIVE WITH PARASITOLOGY X 3 ORGANIC ACID TEST (OAT)



BIO HEALTH 401H PROS

- Most accurate for H. Pylori
- Most accurate for amoebic parasites
- Easy to read and understand

GI Screen with H. pylori Antigen - 401H

Microscopy

	Sample I	Sample II	Sample III
Ova/Parasites	Entamoeba coli;	Entamoeba coli; Giardia lamblia	Giardia lamblia
Trichrome Stain	Entamoeba coli	Entamoeba coli; Giardia lamblia	Giardia lamblia
Yeast	Moderate	Moderate	Moderate

Each stool sample was prepared for microscopic evaluation on wet mount and trichrome stains, utilizing resource-intensive techniques to aid in the analysis and detection of organisms. Yeast, when visibly identified, is reported in terms of predominance on the sample. If 'QNS' is reported, the patient's sample was inadequate for testing purposes.

Antigen

Cryptosporidium parvum	NOT DETECTED
Giardia lamblia	DETECTED
Helicobacter pylori	NOT DETECTED

Stool antigen tests are widely used for their non-invasive nature, high sensitivity, and high specificity. Detection of antigens on the surface of organisms in stool specimens is the current test of choice for pathogen diagnosis and provides increased sensitivity over more common microscopy techniques, while avoiding the false positives of DNA-based methods.

Cultures

Bacteria		Yeast
Citrobacter spp.:	NG	Candida Spp.: +2
Enterobacter spp.:	NG	Identification: Candida albicans
Escherichia coli:	+4	Other Yeast Identified: No other yeast identified
Klebsiella spp.:	+3	
Identification:	Klebsiella oxytoca	
Proteus spp.:	NG	
Pseudomonas spp.:	NG	
Other Bacteria spp. Identified:		
No other bacteria identified		

WHAT TO LOOK FOR ON THE 401H

- H. Pylori
- D. Fragilis, B. Hominis and other amoebic parasites
- E. Coli and other bacteria

HELICOBACTER PYLORI

- Prefer a low acid (more alkaline) environment
- Produce bicarbonate
- Can attack parietal cells, interfering with stomach acid
- Spirochetes, can hide in the stomach wall and mucosa

H PYLORI

- can contribute to leaky gut in the duodenum
- strongly linked to stomach and duodenal cancer
- make histamine
- have been associated with hypothyroid and autoimmunity

DOCTORS DATA COMPREHENSIVE W/ PARASITOLOGY PROS

- Tests bacteria/yeasts for susceptibility to herbs + pharmaceuticals
- Always shows Bifidobacterium and Lactobacillus
- Shows SIgA and short chain fatty acids in the sample
- Easy to read and understand, colourful

Comprehensive Parasitology,stool, x3

BACTERIOLOGY CULTURE

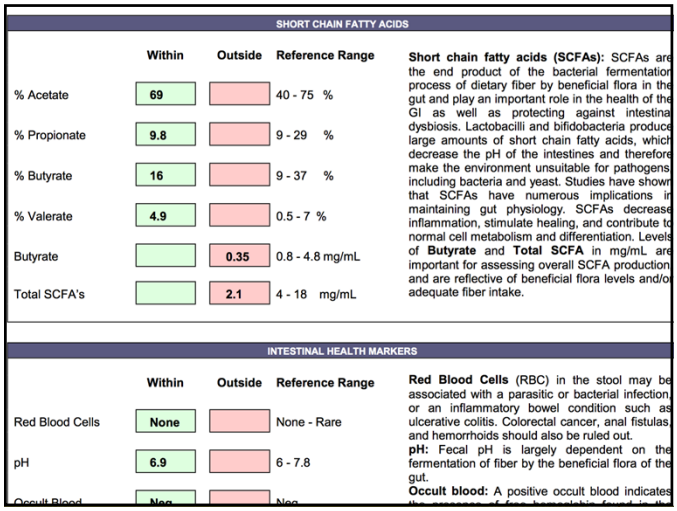
Expected/Beneficial flora	Commensal (Imbalanced) flora	Dysbiotic flora
4+ Bacteroides fragilis group	2+ Citrobacter freundii complex	4+ Enterobacter cloacae complex
1+ Bifidobacterium spp.	2+ Klebsiella pneumoniae ssp pneumoniae	4+ Enterobacter cloacae complex,isolate 2
4+ Escherichia coli		3+ Pseudomonas aeruginosa
NG Lactobacillus spp.		
4+ Enterococcus spp.		
2+ Clostridium spp.		
NG = No Growth		

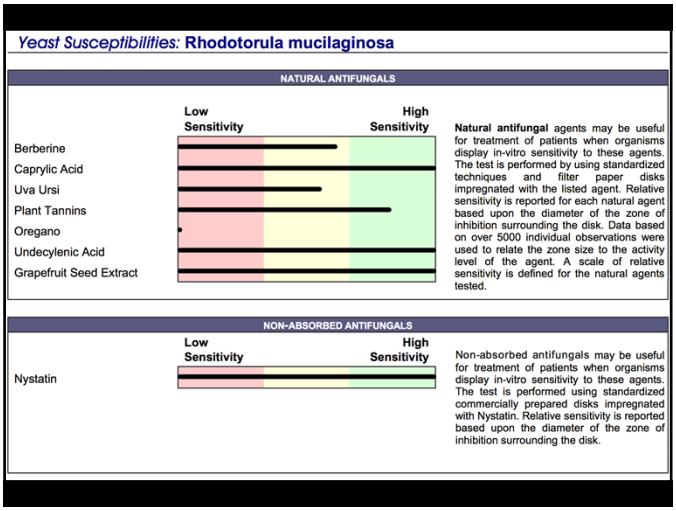
BACTERIA INFORMATION

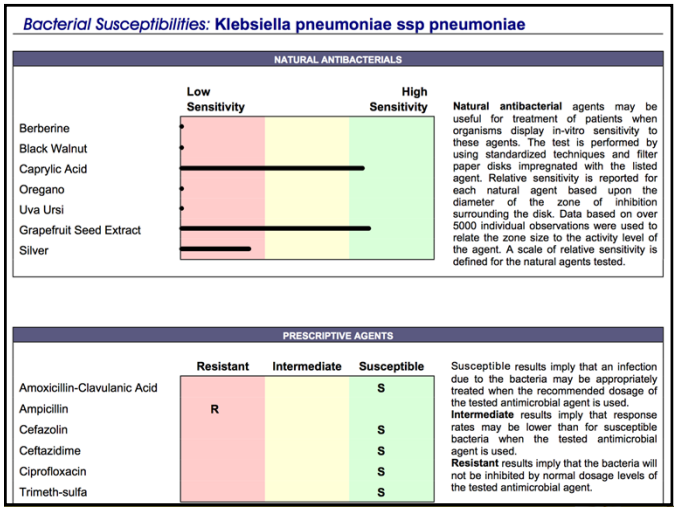
Expected /Beneficial bacteria make up a significant portion of the total microflora in a healthy & balanced GI tract. These beneficial bacteria have many health-protecting effects in the GI tract including manufacturing vitamins, fermenting fibers, digesting proteins and carbohydrates, and propagating anti-tumor and anti-inflammatory factors.
Clostridia are prevalent flora in a healthy intestine. Clostridium spp. should be considered in the context of balance with other expected/beneficial flora. Absence of clostridia or over abundance relative to other expected/beneficial flora indicates bacterial imbalance. If *C. difficile* associated disease is suspected, a Comprehensive Clostridium culture or toxigenic *C. difficile* DNA test is recommended.
Commensal (Imbalanced) bacteria are usually neither pathogenic nor beneficial to the host GI tract. Imbalances can occur when there are insufficient levels of beneficial bacteria and increased levels of commensal bacteria. Certain commensal bacteria are reported as dysbiotic at higher levels.
Dysbiotic bacteria consist of known pathogenic bacteria and those that have the potential to cause disease in the GI tract. They can be present due to a number of factors including: consumption of contaminated water or food, exposure to chemicals that are toxic to beneficial bacteria; the use of antibiotics, oral contraceptives or other medications; poor fiber intake and high stress levels.

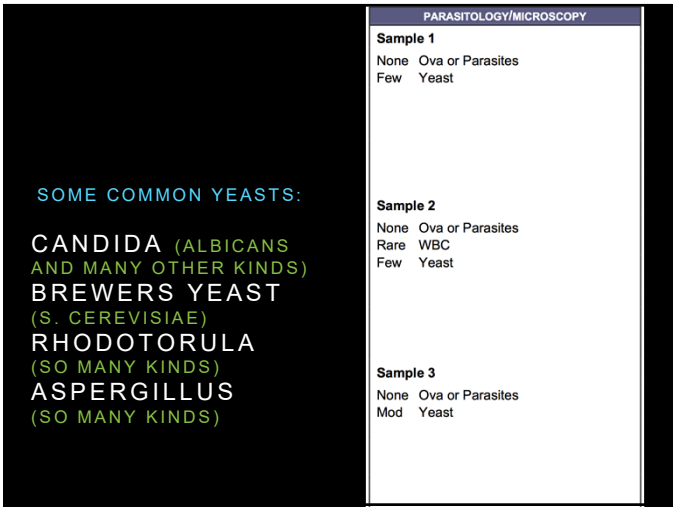
YEAST CULTURE

Normal flora	Dysbiotic flora
1+ Rhodotorula mucilaginosa	


SHORT CHAIN FATTY ACIDS
Within
Outside
Reference Range
% Acetate
69
40 - 75 %
% Propionate
9.8
9 - 29 %
% Butyrate
16
9 - 37 %
% Valerate
4.9
0.5 - 7 %
Butyrate
0.35
0.8 - 4.8 mg/mL
Total SCFA's
2.1
4 - 18 mg/mL
Short chain fatty acids (SCFAs): SCFAs are the end product of the bacterial fermentation process of dietary fiber by beneficial flora in the gut and play an important role in the health of the GI as well as protecting against intestinal dysbiosis. Lactobacilli and bifidobacteria produce large amounts of short chain fatty acids, which decrease the pH of the intestines and therefore make the environment unsuitable for pathogens including bacteria and yeast. Studies have shown that SCFAs have numerous implications in maintaining gut physiology. SCFAs decrease inflammation, stimulate healing, and contribute to normal cell metabolism and differentiation. Levels of Butyrate and Total SCFA in mg/mL are important for assessing overall SCFA production and are reflective of beneficial flora levels and/or adequate fiber intake.
INTESTINAL HEALTH MARKERS
Within
Outside
Reference Range
Red Blood Cells
None
None - Rare
pH
6.9
6 - 7.8
Red Blood Cells (RBC) in the stool may be associated with a parasitic or bacterial infection, or an inflammatory bowel condition such as ulcerative colitis. Colorectal cancer, anal fistulas, and hemorrhoids should also be ruled out.
pH: Fecal pH is largely dependent on the fermentation of fiber by the beneficial flora of the gut.
Occult blood: A positive occult blood indicates


Yeast Susceptibilities: Rhodotorula mucilaginosa
NATURAL ANTIFUNGALS
Low Sensitivity
High Sensitivity
Berberine
Caprylic Acid
Uva Ursi
Plant Tannins
Oregano
Undecylenic Acid
Grapefruit Seed Extract
Natural antifungal agents may be useful for treatment of patients when organisms display in-vitro sensitivity to these agents. The test is performed by using standardized techniques and filter paper disks impregnated with the listed agent. Relative sensitivity is reported for each natural agent based upon the diameter of the zone of inhibition surrounding the disk. Data based on over 5000 individual observations were used to relate the zone size to the activity level of the agent. A scale of relative sensitivity is defined for the natural agents tested.
NON-ABSORBED ANTIFUNGALS
Low Sensitivity
High Sensitivity
Nystatin
Non-absorbed antifungals may be useful for treatment of patients when organisms display in-vitro sensitivity to these agents. The test is performed using standardized commercially prepared disks impregnated with Nystatin. Relative sensitivity is reported based upon the diameter of the zone of inhibition surrounding the disk.


Bacterial Susceptibilities: Klebsiella pneumoniae ssp pneumoniae
NATURAL ANTIBACTERIALS
Low Sensitivity
High Sensitivity
Berberine
Black Walnut
Caprylic Acid
Oregano
Uva Ursi
Grapefruit Seed Extract
Silver
Natural antibacterial agents may be useful for treatment of patients when organisms display in-vitro sensitivity to these agents. The test is performed by using standardized techniques and filter paper disks impregnated with the listed agent. Relative sensitivity is reported for each natural agent based upon the diameter of the zone of inhibition surrounding the disk. Data based on over 5000 individual observations were used to relate the zone size to the activity level of the agent. A scale of relative sensitivity is defined for the natural agents tested.
PRESCRIPTIVE AGENTS
Resistant
Intermediate
Susceptible
Amoxicillin-Clavulanic Acid
S
Ampicillin
R
Cefazolin
S
Ceftazidime
S
Ciprofloxacin
S
Trimeth-sulfa
S
Susceptible results imply that an infection due to the bacteria may be appropriately treated when the recommended dosage of the tested antimicrobial agent is used.
Intermediate results imply that response rates may be lower than for susceptible bacteria when the tested antimicrobial agent is used.
Resistant results imply that the bacteria will not be inhibited by normal dosage levels of the tested antimicrobial agent.


SOME COMMON YEASTS:
CANDIDA (ALBICANS AND MANY OTHER KINDS)
BREWERS YEAST (S. CEREVISIAE)
RHODOTORULA (SO MANY KINDS)
ASPERGILLUS (SO MANY KINDS)
PARASITOLOGY/MICROSCOPY
Sample 1
None Ova or Parasites
Few Yeast
Sample 2
None Ova or Parasites
Rare WBC
Few Yeast
Sample 3
None Ova or Parasites
Mod Yeast

WHAT TO LOOK FOR ON THE DOCTORS' DATA COMPREHENSIVE W PARASITOLOGY

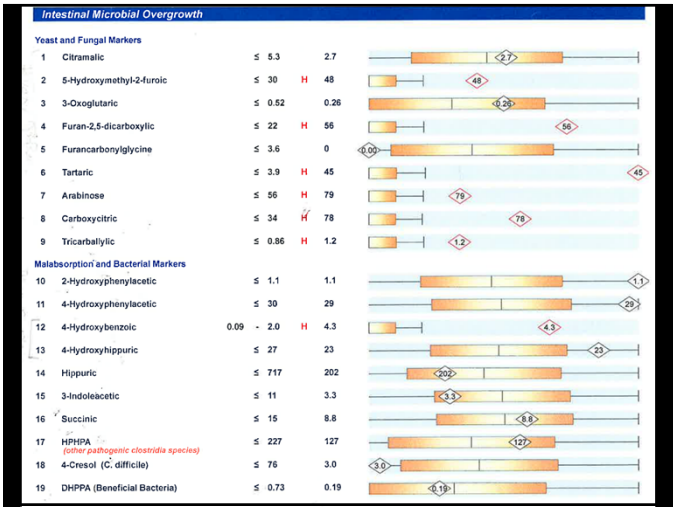
- Yeast and bacterial susceptibilities
- SIgA
- Short chain fatty acid levels
- Beneficial bacteria levels
- E. Coli, Klebsiella and other dysbiotic bacteria in context

E COLI

- Some strains have been linked to UTIs and mastitis
- Produce K2, glutathione, D-lactic acid
- Some strains can become easily resistant to drugs, herbs, oils and extracts (double cell wall)
- Some strains have been found to cause obesity

ORGANIC ACID TEST PROS

- Markers for oxalates
- Markers for yeast and bacterial overgrowths
- Markers for neurotransmitters
- Markers for C. diff
- MMA (builds up in B12 deficiency)



Oxalate Metabolites						
20	Glyceric	0.71 - 9.5	H	17		
21	Glycolic	20 - 202	H	207		
22	Oxalic	15 - 174	H	223		
Glycolytic Cycle Metabolites						
23	Lactic	0.18 - 44		16		
24	Pyruvic	0.88 - 9.1	L	0.61		
25	2-Hydroxybutyric	≤ 2.2		1.2		
Krebs Cycle Metabolites						
26	Succinic	≤ 15		8.8		
27	Fumaric	0.04 - 1.3	H	1.6		
28	Malic	≤ 2.2		0.31		
29	2-Oxoglutaric	≤ 81		36		
30	Aconitic	11 - 35	H	62		
31	Citric	59 - 440	H	563		
Neurotransmitter Metabolites						
32	Homovanillic (HVA) (dopamine)	≤ 14		6.1		
33	Vanillylmandelic (VMA) (norepinephrine, epinephrine)	0.87 - 5.9		2.7		
34	HVA / VMA Ratio	0.12 - 3.0		2.2		
35	5-Hydroxyindoleacetic (5-HIAA) (serotonin)	≤ 7.7		0.85		
36	Quinolinic	0.63 - 6.7		5.8		
37	Kynurenic	≤ 4.1		3.7		
38	Quinolinic / 5-HIAA Ratio	0.04 - 2.2	H	6.8		

WHAT TO LOOK FOR ON THE OAT

- Markers for yeast/bacteria
  - Arabinose, citromalic acid, tartaric acid, furan-2,5-dicarboxylic acid, more…
- Markers for high oxalates
  - Glyceric, glycolic, oxalic acid
- Markers for neurotransmitters
  - Quinolinic acid/5-HIAA ratio

FUNGI

- Produce HISTAMINE
- Produce acetylaldehyde
- Produce OXALATES
- Reduce Bifidobacterium
- Decrease estrogen detox

YEASTS/FUNGI LINKED TO:

- Fibromyalgia
- Headaches
- Fatigue
- Acne
- Dry Skin
- Thyroid Conditions
- Gluten cross-reactivity

WHAT ABOUT THE U-BIOME TEST?

- Can show families but not species and strain specificity (yet)
- Can show the bacteria associated with colon cancer but not what allowed them to grow
- Can only tell you fun facts about the bacteria

SOME CONTEXT

- E. Coli in the small intestine can acidify the environment
  - associated with gluten sensitivity and weight gain
- Klebsiella can break down the mucosa
  - required for nutrient absorption, enzymes and protection
- Gut flora will grow to consume what we can't digest
- Bifidobacteria can = 10% of our gut flora
- Lactobacillus can be 2% of our gut flora

THANK YOU FOR BEING HERE

LET'S PLAY A LITTLE GAME!

HOW TO PLAY

- Follow the instructions on your sheet (client 1 + 2)
- Decide which tests are best for your client
- Describe to your client how their specific concern is related to their digestion
- Describe the steps necessary to achieve your client's goals

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