

1 - IBS Explained

"The spirit of a warrior is not geared to indulging and complaining,
nor is it geared to winning, or losing.

The spirit of a warrior is geared only to struggle,
and every struggle is a warrior's last battle on earth.

Thus the outcome matters very little to him.

In his last battle on earth a warrior lets his spirit flow free and clear.

And as he wages his battle, knowing that his will is impeccable,
...a warrior laughs and laughs."

don Juan Mateus

from *Separate Reality*

by Carlos Castaneda

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I dedicate this book to all who are suffering from IBS.

Within are the tools you need for your journey to freedom.

IBS Explained

Brian C. Dobson

<http://www.ibsexplained.com>

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☺ The Internet - this giant garbage dump of human dreams has hidden within it, if you look hard, a few golden nuggets. Thanks.

First-Aid for IBS

Go to <http://www.ibsexplained.com>

Click on STOP and start the three step program.

This book is the first step.

Foreword

This book contains the results of a five decade research program.

The control systems of the digestion are a real challenge,
and so I have tried to explain them as simply as possible.

My treatment program however will overcome your illness,
even if you cannot understand the cause.

The hypothesis has been arrived at by observation of IBS symptoms, and
it may be wrong in some respects. However, it predicts all the nuances
of IBS, and is likely to be close to the target.

A scientific paper has been published;

You can access it at www.ibsexplained.com and also via the Science
Direct Database;

The small intestine and irritable bowel syndrome (IBS):

A batch process model.

Medical Hypotheses (2008) 71, 781-787

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The hypothesis has also been published in a book;

Constipation - Causes, Diagnosis & Treatment [Intech 2012]

You may download an electronic copy from; www.intechweb.org

Chapter One - Introduction

So why did I write this book?

I did not start with a book in mind. IBS-D had afflicted me since age 14, and by age 50 it was severe. No-one was able to help me; so one day, after an episode of extreme symptoms, I decided to take responsibility for my own health. Stabilized on a diet of fruit juice & raw fish, a research project began.

IBS does not kill you, but it takes away your life.

Step one was a journal where food and symptoms were recorded. Then experiments began. Clues started to trickle in. A theory was tested, modified, and tested again. A scientific paper was published. Treatment programs are under ongoing development. I intend for this book to be the best explanation of IBS ever written.

What causes IBS?

At first I could find no sensible answers. There were many opinions, but they did not stack up. There were IBS papers, books and hundreds of websites that were largely rubbish. Their often conflicting advice was useless.

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I looked at the evidence. Other sufferers described their symptoms. Clues were provided by friends, colleagues and researchers. The works of Carol Sinclair (www.lowstarchdiet.net), Dr E B Blanchard, Dr D B A Silk, and Wai Genriiu (www.waisays.com), were illuminating. Eventually I created a model of the small intestine, gall bladder & pancreas, controlled by five divisions of the autonomic nervous system, and five hormones. When faults occur in the model, symptoms identical to those of IBS are produced.

At seventy years old, after being ill for 55 years, 99% of my IBS symptoms are gone. My personal performance continues to improve and goals formerly beyond me are in sight. In short, I'm smoking.

What is Irritable Bowel Syndrome?

IBS is when your guts don't work. Constipation, or diarrhoea, or both, are torturing you. Your doctor tests and checks everything...

"I cannot find anything wrong" he/she says, "you have IBS".

This is how doctors diagnose IBS. When they can find nothing amiss but something obviously is; then you have IBS.

*"Here are some pills. Take as directed and they may help.
Go and read all the advice on IBS and stop eating the foods
that seem to cause problems".*

Some of you may have steatorrhea (fat in the stool) and so the doctor looks for gall stones to see if there is a blockage in your bile duct. There are often no gall stones but the surgeon whips out your gall bladder anyway. This may stop the steatorrhea but you still have the other symptoms.

You go away and try to cope. The pills do not help much, and you are miserable. You may have a selection from constipation, bloating, borborygmii, cramping, diarrhoea, or even none of these and instead, a host of other nebulous ailments. Since your guts often don't work, you can be afraid to eat. You suffer from malnutrition and may lose weight. You try herb and fibre supplements. You have laxatives and/or anti-diarrhoea medicines at hand. A host of secondary symptoms afflict you. You may have a selection from; depression, headache, hallucinations, lack of energy, skin infections, back pain, aching limbs, athlete's foot, ingrown nails, and other minor ailments. You are not dying but some days you feel like you are!

This book explains why your body is suffering from IBS, and tells you how to relax and feed yourself, so that the symptoms disappear. You will feel great, be able to throw the medicines away and stop visiting the doctor.

The commonly accepted definitions of IBS

There are three main types of IBS. Some or all of the symptoms; constipation, diarrhoea, borborygmii (gurgling), bloating, anal irritation, and cramping, can accompany each type. The severity of the symptoms can vary from mild & intermittent, to severe & continuous. We take a brief look at each one:

1. *IBS-C or constipation predominant IBS*; there are many variations on this theme from slight to severe. Laxatives may be needed to clear the constipation. You may get up, eat breakfast, and quickly get severe bloating and/or cramping. Borborygmii (gurgling) may tag along for the ride, together with stress, depression and lots of other symptoms. When it is bad, you stay at home.
2. *IBS-D or diarrhoea predominant IBS*; you get up in the morning and everything in your digestive system comes out fast (the morning rush). Your bowel movements (BMs) contain raw enzymes that attack the skin around the anus. Borborygmii, depression and possibly cramping afflict you. Many other minor symptoms may occur. In the middle of an important meeting, you need to go. You must go! Afterwards, you are very hungry and eat like a horse but oh dear, it can all come out again the next morning (or even sooner).
3. *IBS-A or alternating constipation & diarrhoea IBS*; I call this type 'double-trouble'. You suffer from diarrhoea and often constipation as well. These can alternate irregularly. It is as if both IBS-C and IBS-D have combined to afflict you (and they have!). Bloating, borborygmii, and depression are your daily fare. Cramping and anal irritation are possible. It is very unpleasant. Just add IBS-C & D together, and you get IBS-A.

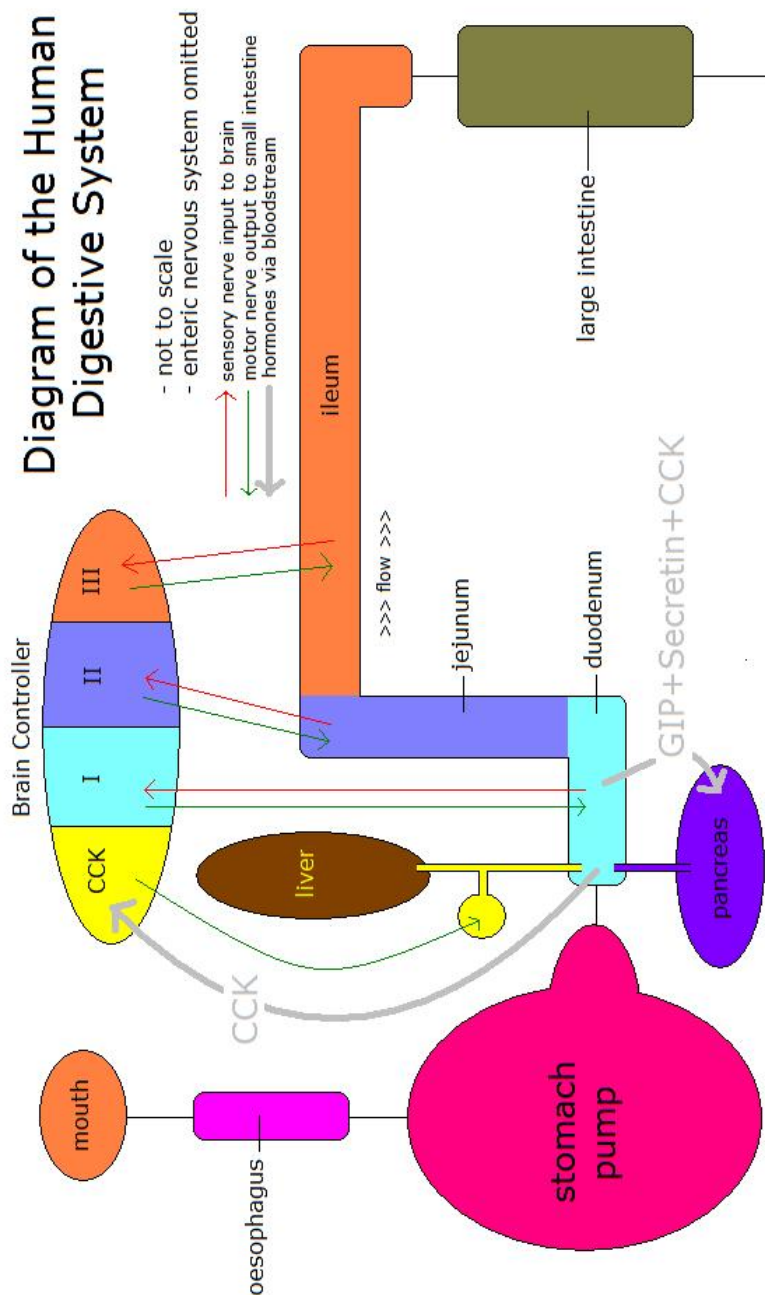
IBS defined accurately

I have identified four types of IBS. Here are accurate definitions of them. I will be brief as full explanations are provided later in the book.

1. *IBS-C*; occurs when you have *constipation and NO diarrhoea*. Yes, the presence of one and the absence of the other define this type. You may have many other symptoms as well, but these are the two that matter.
2. *IBS-D*; occurs when you have *diarrhoea and NO bloating*. These two are the symptoms that matter, even though many others, including constipation, may occur.
3. *IBS-A*; occurs when you have both *diarrhoea AND severe bloating*. Diarrhoea often alternates irregularly with constipation, but the first two are the ones that matter. Many other symptoms may occur.
4. *IBS-B or bile deficient IBS*; my research has identified a fourth type of IBS that has not been defined before. This may be occurring when you get fat in your BMs (steatorrhea). The gall bladder is not releasing sufficient bile salts to digest all fats. Standard treatment for this type of IBS is removal of the gall bladder. IBS-B occurs (most of the time), together with one of the first three types, and it makes their symptoms MUCH worse. Steatorrhea however can occur for other reasons, and this can make IBS-B difficult to spot. If you have severe IBS, or have lost your gall bladder to the surgeon, then IBS-B may afflict you.

However, things are about to get complicated. In the rest of this book I am going to describe how your body creates all types of IBS. You may not understand my explanations, but if you;

- *do* Relaxation Therapy
- *and* eat one of my special diets
- *then* your IBS symptoms will largely vanish.



Chapter Two -

A batch process model of the small intestine

I present a hypothetical model of the human digestion that has been created in order to explain how the symptoms of IBS are caused. A chemical engineering background will give you a head start! Please refer to the diagram of the digestive system opposite.

Overview of your digestive system

We start at the orange blob labelled mouth. Here you put in food & drink, taste it, and chew it. Saliva with enzymes is secreted and mixed with the food. Digestion starts. Soon you have a semi-liquid mixture that you can swallow. This is the only part of the digestive process (apart from the anus), where you have voluntary control. The rest is managed by five hormones and these two divisions of your autonomic nervous system;

1. *The enteric nervous system*; a collection of reflex actions in the gut that do the simple stuff. These reflexes are modified by your adrenal hormones.
2. *The brain*; a collection of complex automatic programs that do the hard stuff. These programs are modified by inputs from other parts of the brain and the walls of the small intestine.

When swallowed, food goes through the valve at the back of the throat, travels down the tube called the oesophagus, and then through another valve into the stomach. The oesophagus, stomach and associated valves are controlled by the enteric nervous system.

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In the stomach, enzymes & hydrochloric acid are added and food is churned into a soup. The acid splits complex sugars into simple sugars that can be absorbed. The soup is then pumped into the first part of the small intestine, through a valve, in spurts. ***It is important to grasp that the stomach operates as a pump. It squirts food soup into the small intestine under pressure.*** This pumping action is a reflex that can be slowed down, but not stopped.

In the small intestine the acidified food soup from the stomach has chemicals added to it. First, the chemicals are mixed in and fats are emulsified | second, all nutrients are digested & absorbed | and last, digestive chemicals are removed and recycled. Yes, we are environmentally tuned! When the intestine contains food it is controlled by five hormones & the brain. When it is empty, it is controlled by the enteric nervous system.

The food soup reaches the end of the small intestine after about 1-2 days. In the morning, soon after you arise, the valve at the end becomes easy to open. This is when adrenal hormones are released to kick-start your internal systems. Overnight when adrenal hormones fall to a baseline level, it is tightly shut. When the valve loosens, food soup moves into the large intestine (brown). Here, under the control of the enteric nervous system, it is dehydrated and prepared for release.

Phew, was that too hard? If there was anything you did not understand, please read it again until you do. The next sections are much more challenging!

Small intestine

The stomach pumps spurts of food soup into the small intestine under pressure. The small intestine then processes your soup in batches. Digestion is not a continuous process but a batch process. There are three parts to the intestine, here they are;

1. *The duodenum*; is the first part. It receives a spurt of food soup from the stomach and processes it before passing it on to...
2. *The jejunum*; is the second part. It receives batches of food soup from the duodenum, adds them together into larger batches, processes them, then passes them on to...
3. *The ileum*; this is the final part. It receives batches of food soup from the jejunum, processes them, and passes them on to the large intestine (colon).

Duodenum

The first section of the small intestine is a short tube about 25cm long. The duodenum has its own brain transport controller (I) that uses a unique neuro-transmitter, and it processes acidified food soup in batches (spurts) as it receives them from the stomach. It has two ducts opening into it through a common opening, one from the gall bladder for delivering bile, and one from the pancreas for delivering enzymes & bicarbonate. A valve (sphincter of Oddi) covers the opening, and prevents backflow of food soup into the ducts. When a spurt of food soup is pumped into the duodenum, cells in its wall release these hormones into the bloodstream;

1. *Cholecystikin*in (CCK); a mixture of three peptide hormones. One travels to the brain where it is detected by a small intestine brain controller (CCK). This controller then sends a nerve signal to the muscle that empties the gall bladder. Enough bile to emulsify all fats is then added to the food soup. Fats become tiny droplets that are suspended in the soup just as they are in an egg yolk. If this is not done then they cannot be digested, and you will suffer from steatorrhea. Of the other two CCK hormones, one stimulates the pancreas to release lipase enzymes, and the other slows down the release of soup from the stomach.
2. *Glucose-dependent insulinotrophic peptide* (GIP); this travels to the pancreas where it stimulates the release of insulin.
3. *Secretin*; this travels to the pancreas where it stimulates the release of sufficient bicarbonate to neutralize all acids. It also slows release of soup from the stomach. Pancreatic enzymes cannot digest food in acid conditions, so acids must be neutralized.

When food is present, sensory cells in the duodenum wall send nerve signals (input) to the duodenum brain transport controller (I). The controller then switches on and sends nerve signals (output) to the muscles in the walls of the duodenum. Food and chemicals are mixed together, by transporting them vigorously backwards and forwards. All fats are emulsified by this action. If no sensory input is received the controller remains switched off and the enteric nervous system takes over.

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Within a minute you have a well-mixed, neutral to slightly alkaline batch of food soup. All fats are emulsified and sufficient enzymes are present to digest all nutrients. Now the controller moves the soup slowly into the next section of the small intestine and the duodenum is ready to receive another spurt from the stomach pump.

Jejunum

The second section of the small intestine is about two to three metres long. It has its own brain transport controller (II) that uses a unique neuro-transmitter. It receives slowly travelling small batches from the duodenum, and adds them into larger batches. If for some reason, a batch travels 'too fast', then the jejunum controller refuses to accept it by constricting the intestine.

Once food soup is in the jejunum, sensory cells in its wall send nerve signals (input) to the jejunum brain transport controller. The controller switches on and sends nerve signals (output), to the muscles in the jejunum wall. These muscles control mixing and transport in the jejunum. If no sensory input is received the controller remains switched off and the enteric nervous system takes over.

In the jejunum food is digested and nutrients are absorbed. The controller varies the rate of nutrient uptake by mixing the soup and moving it backwards and forwards. It receives instructions from other parts of the brain on how fast to do this. This ensures that when your body needs more energy, the jejunum can provide extra in a hurry. When you are resting, the controller slows down. When nutrient absorption is complete, a batch is at the end of the jejunum and the controller moves it slowly into the third section.

Ileum

The third and last section of the small intestine is about four to six metres long. It has its own brain transport controller (III) that uses a unique neuro-transmitter. It receives slowly travelling batches of food soup from the jejunum. If the batches travel 'too fast', then the ileum controller refuses to accept them, by constricting the intestine.

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Once the soup is in the ileum, sensory cells in its wall send nerve signals to the ileum brain transport controller. The controller switches on and sends nerve signals to the muscles in the ileum wall. These control speed, mixing and transport in the ileum. If no sensory input is received the controller remains switched off and the enteric nervous system takes over.

The ileum controller manages the recycling of bile salts & enzymes by mixing the batches and moving them backwards and forwards. Recovered bile salts are sent back to the gall bladder, and recovered enzymes are sent back to the pancreas. These digestive chemicals must be recycled as they take a lot of resources to manufacture, and the body cannot make them quickly enough to replace the loss of more than a small amount each day. The batches are also partially dehydrated. When the recycling and dehydration process is complete, batches are at the end of the ileum ready for release into the large intestine (colon).

The ileum cannot move them into the colon until the 'valve at the end' opens. The controller is not able to open this valve itself, as the enteric nervous system controls it. Levels of adrenal hormones increase just after arising in the morning, stimulating the enteric nervous system, and opening the valve. This is why we often have a BM first thing in the morning. Adrenal hormone levels also increase when we are subject to stress. This is why we sometimes lose control of our bowels when given an awful fright. Hormone levels are lowest at night when you are asleep, so the enteric nervous system is relaxed, and the valve firmly closed.

Once the batches are moved into the colon, the ileum brain controller has nothing more to do with them. The enteric nervous system controls the colon, and if the food soup has not been digested correctly, then it will be quickly evacuated.

MMC

When there is no food in a section of the small intestine, its brain controller remains switched off. The enteric nervous system takes over and applies a slow peristaltic wave that moves from the beginning to the end of the empty section. This is called the Migratory Motor Complex or MMC. It is like a street sweeper that works after hours to clean up rubbish.

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When a brain controller fails, and food is present, then the MMC moves the soup instead. Movement is in the forward direction only, and there is no control of mixing or timing. The speed depends on three principal factors;

1. *Fibre*; from cereals (bran) and the external coats of legumes, causes speeds that are 'too fast'.
2. *The wrong food*; that is food selected & prepared incorrectly, eaten at the wrong time, and in the wrong amount, will cause 'too fast' speeds.
3. *Stress*; this raises the level of adrenal hormones, increases the state of the autonomic nervous system, and causes the enteric nervous system to make the MMC 'too fast'.

Summary

Each of the three sections has a brain transport controller with a unique neuro-transmitter. The duodenum processes food soup from the stomach in single batches and passes them slowly to the jejunum. The jejunum amalgamates these batches into larger ones, processes them, and then passes them slowly to the ileum. The ileum processes the batches, and then passes them to the large intestine when the valve at the end of the small intestine opens. The MMC sweeps the intestine when brain control is absent. There is a fourth brain controller to manage addition of bile salts from the gall bladder.

The jejunum and ileum controllers will only accept batches when they are travelling slowly. If the batches go 'too fast', they constrict the intestine and stop them. The controllers operate only when they receive sensory input from the walls of the intestine. When there is no input they switch off. The enteric nervous system then takes over and applies the MMC. If food is present when the MMC is in control, then cereal fibre, whole legume fibre, bad food and stress, cause 'too fast' speeds.

You can see why the sizes of each part of the intestine are so different. The duodenum processes a single spurt from the stomach, so it is only 25cm long. The jejunum processes a whole meal and so it is 2-3m long. The ileum holds food from an entire day (or more), and so it is 4-6m long. The intestine is flexible and can stretch lengthways and sideways to accommodate more food when necessary. The batch processes can take longer if necessary. This happens when you cram in too much food, or eat too often.

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Congratulations!

If you have understood everything you will make an excellent Chemical Engineer. But if anything is not clear please revise Chapter Two as many times as you need to before continuing. It is essential to fully understand how your small intestine works before proceeding any further. You need this understanding for Chapter Three.

-|-

Next I expose IBS.

Yes, the King is revealed in all his glory.

You get decades of research in one chapter. Phew!

-|-

Chapter Three - Irritable Bowel Syndrome

Well here we are, about to strip off the clothing from the body of the King. Yes, let's have the Full Monty. We are going to see him naked, in all his glory and his misery.

Which parts of you cause IBS?

Answer; the small intestine, pancreas and gall bladder.

Let's look at a few pieces of evidence;

1. Some of us with IBS-C get severe swelling of the upper abdomen commencing a few minutes after starting to eat breakfast. The problem is at the beginning of the digestive system and further, it is probably at the beginning of the small intestine. That is the most distance that the food could have travelled in such a short time.
2. Some of us with IBS-D or IBS-A have raw enzymes, yellow-orange bile, and possibly undigested fat in their fast BMs. Now the small intestine should have digested all fats, and removed all enzymes & most bile. So it is not working correctly. Diarrhoea occurs because the enteric nervous system evacuates the colon immediately, when raw enzymes and undigested fats enter.
3. Some of us have much worse IBS symptoms than others do. Difficulty digesting fats is a common symptom. The gall bladder is not releasing sufficient bile salts.
4. Some with IBS caused by a toxic insult have difficulty digesting acid foods, fats & proteins. The pancreas is not releasing enough bicarbonate to neutralize acids, and your enzymes will not work in an acidic environment.

Now the doctor has possibly pushed a video camera into your small intestine & colon. He could not find anything wrong. It all looks normal. So logically; the control systems for the small intestine, pancreas & gall bladder are causing your IBS.

Control processes of the digestive system

In Chapter Two, the control systems of the digestion were described. I will briefly summarize them;

Control of the digestive process is largely automated. There are five autonomic nervous system controllers and five hormones that do this task. They are;

- *Four brain controllers*; oversee the functions of three sections of the small intestine and the gall bladder.
- *Enteric nervous system*; the network of nerves in your guts. It operates independently of the brain, and controls the oesophagus, stomach, all the valves, and the large intestine. It provides a backup control system for the small intestine that operates only when the small intestine brain controllers are switched off.
- *Five hormones*; released by the duodenum walls when food soup arrives from the stomach.

Now we look at the control process in more detail;

The four brain controllers operate independently from each other and each has a unique neuro-transmitter. This is a chemical that nerve cells use to communicate with each other. It ensures that each controller can perform its duties without interference from adjoining parts of the brain.

The nervous system uses many of these neuro-transmitters, and most are unknown to science. One that has been well studied is dopamine, whose absence causes Parkinson's disease. Many neuro-transmitters are heterocyclic amines (HCAs). We will learn more about HCAs later on.

Control of the gall bladder

When sensory cells in the walls of the duodenum detect fat, they release three CCK hormones. One travels via the bloodstream to the chemical controller (CCK) in the brain, and this then sends output to the muscle that empties the gall bladder. Enough bile is added to the duodenum to emulsify all fats. Failure of this controller results in insufficient bile being added and incomplete digestion of fats.

Control of transport in the small intestine

When sensory cells in the walls of the small intestine detect food soup, they send signals to the brain transport controllers. These switch on and produce an output signal that goes to the muscles that control transport in the small intestine. Each brain controller sets the correct speed regardless of what foods are present, mixes the food soup, moves it in both directions, and does everything at the right time. The enteric nervous system takes a back seat and shuts up. Easy!

BUT if there is a fault somewhere and the brain does not control some or all of the intestine, then the enteric nervous system takes over. It applies the MMC maintenance program, whose only direction is forward, with no mixing or timing, at a speed set by the type of food you are eating, and stress.

Here is a table showing the speed of the intestine, when it contains certain foods, and is controlled by the enteric nervous system using the MMC;

<i>Food</i>	<i>Speed</i>
Cereal flours	Too fast
Whole cereals	Too fast
Polished cereals	Too fast
Whole legumes	Too fast
Fat	Variable
Split hulled legumes (dahls)	Variable
Vegetables	Variable
Animal Foods	Variable
Nuts & seeds	Variable
Fruits ripe	Normal

- So the speed of the MMC is 'too fast', when you eat cereals and the outer coats of legumes.
- Fat, dahls, veggies, proteins, and nuts & seeds, can also sometimes cause 'too fast' speeds.
- AND this 'too fast' speed triggers Irritable Bowel Syndrome.

?So how are your brain controllers prevented from doing their jobs?

There are at least six possible ways in which this could happen;

1. *Neuro-transmitter deficiency*; each brain controller has a unique neuro-transmitter that enables its nerve cells to communicate with one another. If a neuro-transmitter is missing then no output is produced by the controller. Neuro-transmitters can be absent when a baby is born, or a gradual loss can occur as the individual ages. If a neuro-transmitter is missing at birth, then IBS symptoms start immediately solid foods are fed. When a gradual loss occurs, the symptoms can start at any time of life and are intermittent at first. Later on they become continuous and later still, severe. A neuro-transmitter deficiency is a common cause of IBS.
2. *Toxic insult*; you may have eaten toxins that have destroyed sensory cells in the lining of your small intestine (food poisoning). Now your brain controller(s) receive no input from a part (or parts) of the intestine, and they stay switched off. Here IBS develops immediately after the insult to your digestion. Because the faulty sensors can be anywhere at all, symptoms will vary considerably from person to person. Often the sensory cells that release hormones from the duodenum are destroyed. This will reduce; the amount of bile entering the intestine (IBS-B), and the amount of bicarbonate released from the pancreas. Now the small intestine becomes acidic, and enzymes cannot work. Typical symptoms are indigestion when acid foods are eaten, and difficulty digesting fats no matter what form they are in. This is a common cause of IBS and it is the most difficult one to treat. You will need to follow the suggestions for pancreas problems in the Easy Anti-IBS Diet. DO NOT eat Palaeo.
3. *Bowel infection*; you may have suffered from a bowel infection that has injured sensory cells (post infectious IBS) in the walls of the small intestine. The consequences are similar to 2 above. This type of IBS is common and it is possible that you may recover over time. First eat as for pancreas problems in the Easy Anti-IBS Diet, then after you have recovered, eat the Simple Palaeo Diet.
4. *Surgery*; while under the knife, input nerves to the brain, or output nerves to the small intestine, may be cut. This prevents the brain from controlling parts of the intestine. Here IBS first occurs immediately following the operation.

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5. *Birth defect*; when a baby is born, nervous system connections from the brain controllers to the small intestine have not yet developed. They form within in the first two years of life. If something prevents these connections from establishing, then the small intestine brain controllers cannot control some or all of the small intestine. Here IBS occurs when a baby is first fed solid foods.
6. *Neck vertebrae*; nervous system connections from the brain to the small intestine enter & exit the spinal cord in the neck region. Pressure on these nerves from misplaced vertebra may cause interruption to sensory input from the small intestine to the brain, or interruption to motor signals from the brain to the small intestine. Here IBS occurs intermittently. This fault may be able to be cured by manipulation of vertebra followed by treatment with regular neck exercises and a Palaeo diet.
7. *Any other fault*; that interrupts communication between the brain and the small intestine.

!!! BUT !!! (you ask);

1. Why are there so many symptoms, and types of IBS?
2. How can a 'too fast' speed cause constipation, bloating and cramping?

Very good questions, I could have thought of them myself!

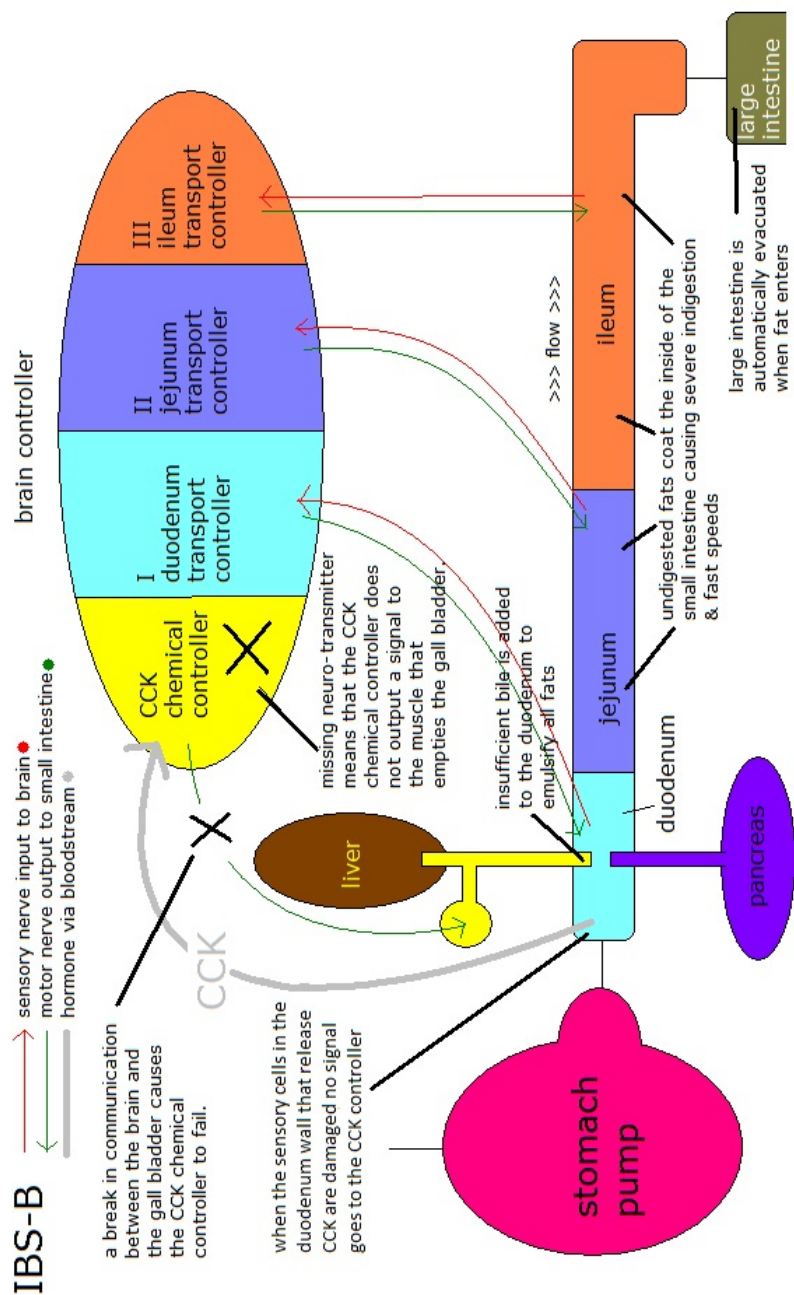
OK, now we are going to look at *neuro-transmitter deficient IBS*. I chose this type as it is easier to explain, and the symptoms are well defined. You will see how all types of IBS caused by a neuro-transmitter deficiency, can be created when neurotransmitter(s) are missing from your small intestine brain controllers.

The key factor here is that there are FOUR controllers and only ONE has to stop working to cause IBS.

Soon you will see that there are FIFTEEN possible varieties of neurotransmitter deficient IBS, all with different symptoms.

Are you ready?

-|-



Irritable Bowel Syndrome - bile deficient; IBS-B

We are going to look at this type first because when it is present, the symptom severity of other types of IBS greatly increases.

WHEN;

- Sensory cells in the duodenum wall fail to release CCK hormone OR
- The neuro-transmitter in the CCK brain controller is missing OR
- The nerve from the CCK brain controller to the gall bladder muscle is cut...

THEN; no signal gets to the muscle that empties the gall bladder, and insufficient bile is added to the duodenum.

Now small amounts of bile are continually released from the gall bladder and, the enteric nervous system (ENS) releases more bile from the gall bladder, in response to the following factors;

- | | |
|---------------------------|--------------------------|
| ▪ Food volume | ▪ Cooked animal proteins |
| ▪ Plant fibre stimulation | ▪ Fruit acids |
| ▪ Milk proteins | ▪ Some herbs & spices |

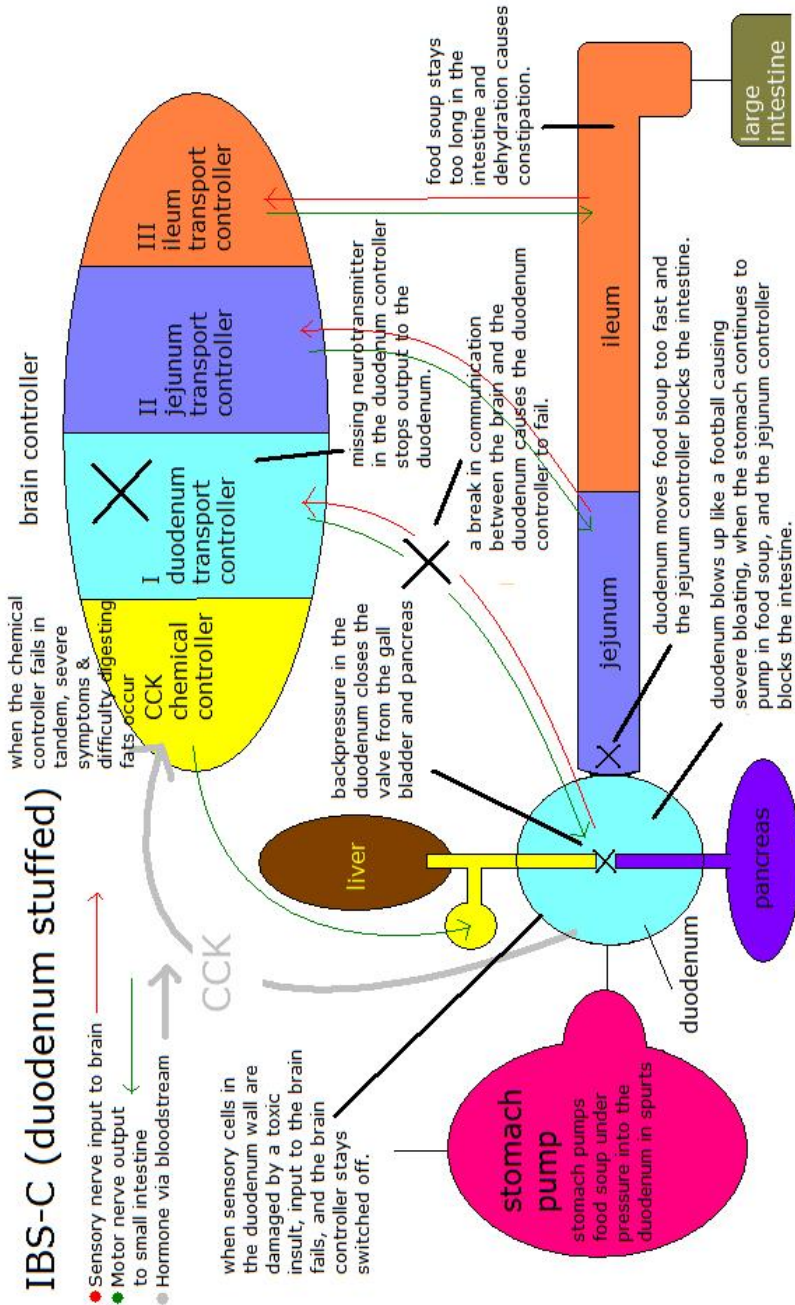
BUT this amount is usually not sufficient to emulsify all the fats in your food. Extra bile needs to be added by the CCK brain controller.

Any fats that are not emulsified cannot be digested. They coat the inside of the small intestine, hinder nutrient absorption, hinder bile salt and enzyme recycling, and give you severe indigestion. When undigested fats arrive in the colon, the ENS immediately evacuates it, and you get a loose, grey BM that floats.

Now this type of IBS sometimes occurs on its own, but usually it occurs together with one of the other types. The symptoms of IBS-C, IBS-D & IBS-A become severe when IBS-B is present.

This is one of the reasons why IBS can be just annoying in one person, and incapacitating in another. The severely ill person will have IBS-B. Often the doctor will recommend gall bladder removal. Bile now flows directly into the intestine, instead of the gall bladder, and your IBS-B symptoms may cease.

Next the King's IBS-C costumes ...



Irritable Bowel Syndrome - constipation predominant; IBS-C

Three combinations of transport controller faults cause IBS-C, and each combination can have IBS-B occurring in tandem with it. This creates a total of six possible types of IBS-C.

IBS-C (duodenum affected)

When the neuro-transmitter in the duodenum brain controller is deficient, output from the controller fails. Now when food is present, the enteric nervous system takes over control of the duodenum and applies the MMC.

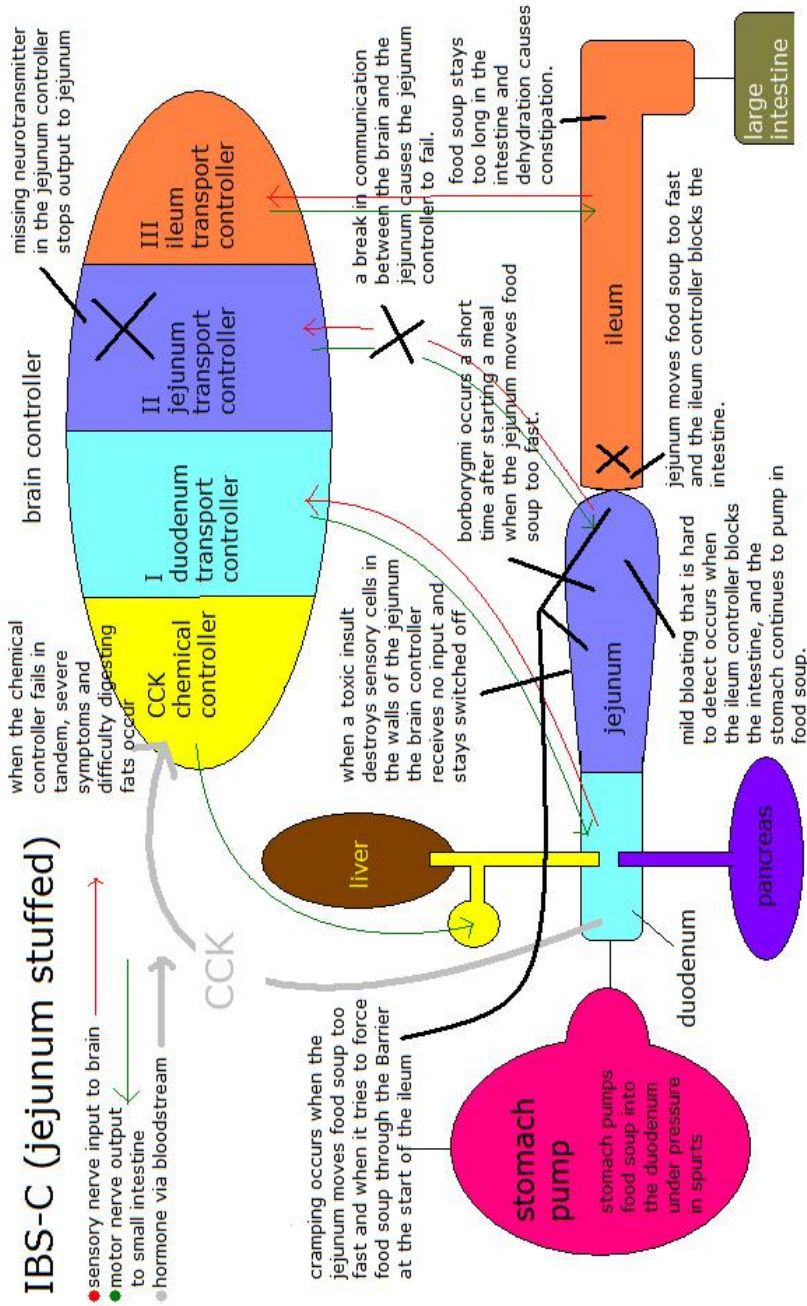
Soon after someone with this problem starts to eat breakfast, the stomach begins pumping food soup into the duodenum. The enteric nervous system (ENS) now moves the soup at high speed to the end of the duodenum, and then tries to move it into the jejunum. The jejunum transport controller will not accept food when it is moving too fast, so it contracts the beginning of the jejunum and blocks the intestine. I call this blockage, the 'IBS Barrier'.

The stomach does not know about the blockage and it keeps pumping breakfast in. The duodenum blows up like a football and the upper abdomen bulges out (severe bloating). The ENS tries hard to move the soup through the Barrier (cramping). Back pressure in the duodenum keeps the valve covering the outlet from the gall bladder and pancreas closed, and insufficient chemicals are added (problems digesting fats). If IBS-B occurs in tandem, symptoms are much worse!

To relieve this problem, the duodenum needs to be slowed down, and the Barrier at the start of the jejunum, relaxed. This happens later in the day (sometimes a lot later), when the autonomic nervous system falls to a low level. But if you change your diet, and learn to relax, then most symptoms will cease. I tell you how to do this later on.

Symptom Summary

Immediate severe bloating and possibly cramping occur in the upper abdomen, when breakfast is eaten. Difficulty digesting fats and constipation occur, but there is NO diarrhoea. If IBS-B is present symptoms are severe, and if the Barrier relaxes quickly there may be a loose grey BM containing fat.



IBS-C (jejunum affected)

When the neuro-transmitter in the jejunum brain controller is deficient, output from the controller fails. Now when food is present, the enteric nervous system takes over control of the jejunum and applies the MMC.

Soon after someone with this problem starts to eat breakfast, the stomach begins pumping batches of food soup into the duodenum. The duodenum processes a batch of soup and then moves it slowly into the jejunum. The enteric nervous system (ENS) now takes over and moves the batch at high speed to the end of the jejunum.

The ENS then tries to move the batch into the ileum, but the ileum controller blocks the intestine as the food soup is going 'too fast'. Erecting an 'IBS Barrier' is just part of its job.

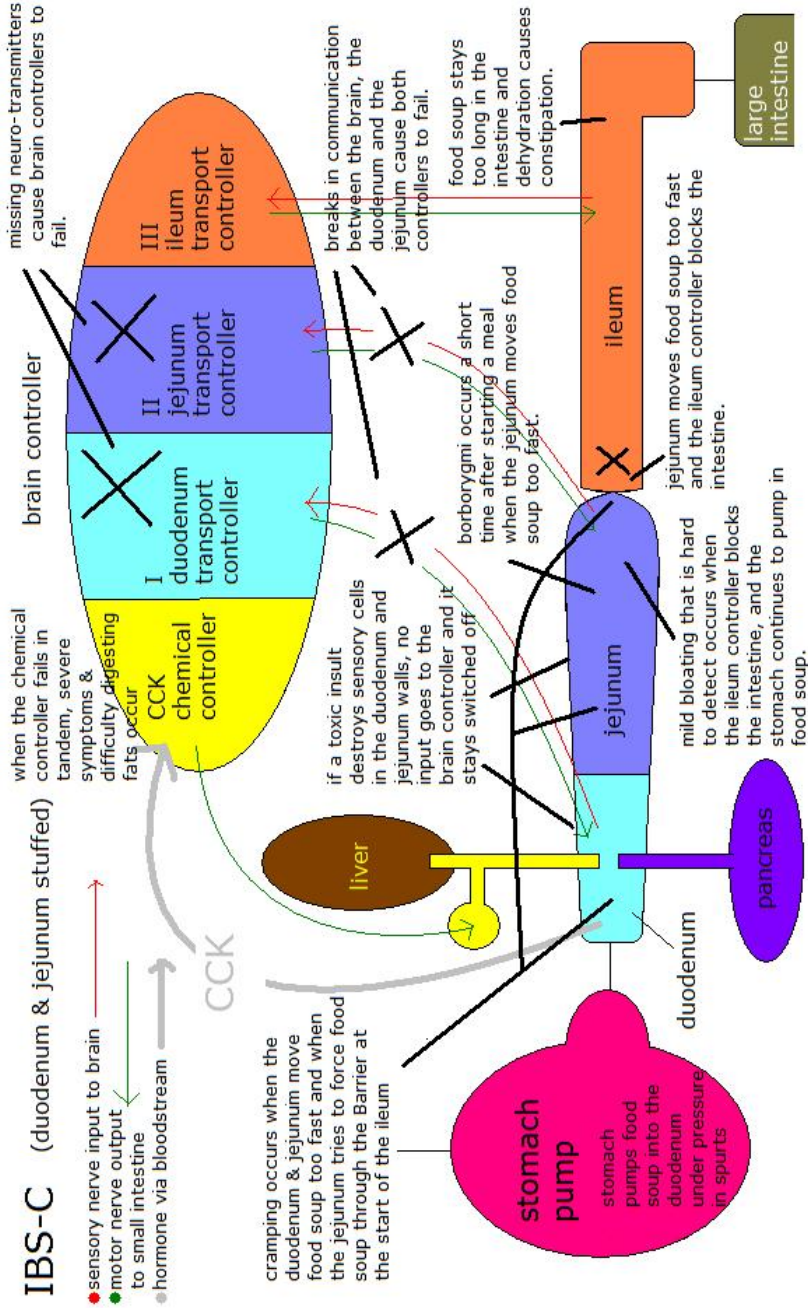
The stomach and duodenum do not know about the Barrier and they keep on processing breakfast. When the ENS moves food soup at high speed to the end of the jejunum, this causes borborygmii (gurgling) and possibly cramping. When the ENS tries to force food soup through the Barrier, this can also cause cramping. The jejunum bloats a little, but this is often not easy to see. If IBS-B occurs in tandem then you get severe symptoms and difficulty digesting fats.

To relieve this problem the Barrier at the start of the ileum needs to be dismantled. This happens later in the day, when the autonomic nervous system falls to a low level. But if you change your diet, and learn to relax, then most symptoms will cease. I tell you how to do this later.

Symptom Summary

Delayed borborygmii, and delayed mild bloating in the mid-abdomen that is hard to detect, possibly accompanied by cramping, start a few minutes after breakfast begins. Constipation occurs and there is no diarrhoea. If IBS-B is present symptoms are severe with difficulty digesting fats, and if the Barrier relaxes quickly there may be a loose grey bowel movement containing fat.

Progress, we make progress!



IBS-C (duodenum & jejunum affected)

When the neuro-transmitters in both the duodenum & jejunum brain controllers are deficient, output from the controllers fails. Now when food is present, the ENS takes over control of the jejunum and applies the MMC.

Soon after breakfast begins, the stomach begins pumping food soup into the duodenum. The ENS now moves the food soup at high speed to the end of the jejunum. The sounds of borborygmii start immediately.

When the ENS tries to move the soup into the ileum, the ileum controller will not accept the high speed delivery. It creates an 'IBS Barrier' by contracting the start of the ileum.

The stomach does not know about the Barrier, and it continues to pump in food soup. The duodenum and jejunum suffer from mild bloating that is hard to detect. Cramping may occur when the ENS moves soup fast and tries to force it through the Barrier. When IBS-B occurs in tandem, severe symptoms and difficulty digesting fats occur.

To relieve this problem both the duodenum & jejunum need to be slowed down, and the Barrier at the start of the ileum, dismantled. This will happen later, when the autonomic nervous system falls to a low level. But if you change your diet, and learn to relax, then most symptoms will cease. I tell you how to do this later.

Symptom Summary

Immediate borborygmii, and immediate mild bloating in the mid-abdomen that is hard to detect, possibly accompanied by cramping, start when breakfast begins. Constipation occurs, but there is no diarrhoea. If IBS-B is present, symptoms are severe with difficulty digesting fats, and if the Barrier relaxes quickly there may be a loose grey bowel movement containing.

The King's six neurotransmitter deficient IBS-C costumes are revealed!

Here they are neatly arranged for you to admire...

The King's six IBS-C costumes

If you examine the table displaying the six types of IBS-C, you can see that all six have two things in common;

1. At least one of the two brain transport controllers for the duodenum and jejunum has failed.
2. The ileum brain transport controller is functioning.

In all types of IBS-C an 'IBS Barrier' forms and causes constipation. You are unlikely to have diarrhoea as a symptom, because the ileum controller works. *HOWEVER if there is difficulty digesting fats AND the Barrier releases quickly, then there can be a loose, grey bowel motion containing fat.*

So when you have
Constipation and NO Diarrhoea
it's usually IBS-C

Even though you may have lots and lots of other symptoms,
the presence of constipation and the absence of diarrhoea
are definitive for IBS-C.

-|-

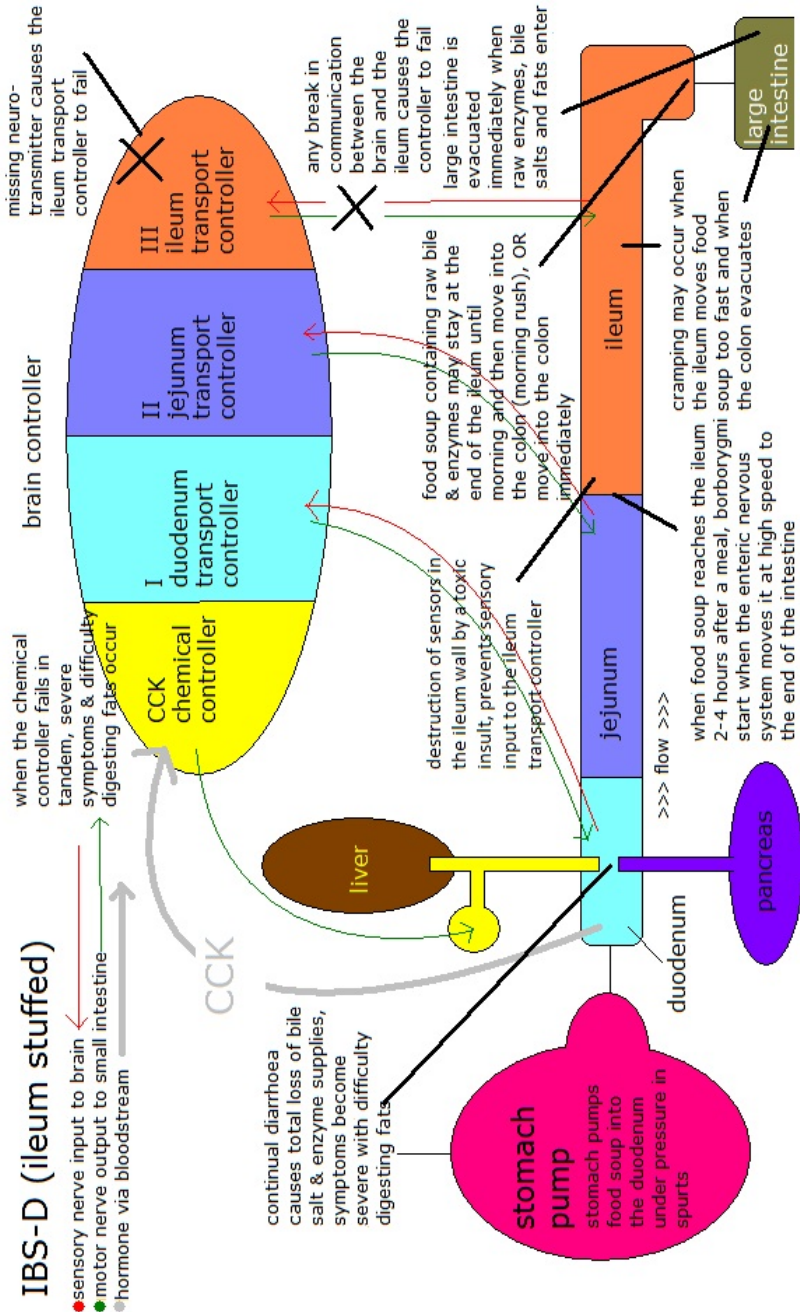
Yeeee ha! You've done it.

I hope you understood, but even if you did not, to get rid of your IBS,
all you need to do is learn to relax and eat one of the diets.

Next IBS-D revealed...

-|-

IBS-D (ileum stuffed)



Irritable Bowel Syndrome - diarrhoea predominant; IBS-D

Three combinations of transport controller faults cause IBS-D, and each combination can have IBS-B occurring in tandem with it. This creates a total of six types of IBS-D.

IBS-D (ileum affected)

When the neuro-transmitter in the ileum brain controller is deficient, output from the controller fails. Now when food is present, the ENS takes over control of the ileum and applies the MMC.

When breakfast is eaten, the stomach, duodenum and jejunum work fine. BUT about 2-4 hours after the meal, borborygmii (gurgling) start. The food soup has arrived at the ileum. The ENS now moves it at high speed to the end of the small intestine, and then tries to move it further into the colon;

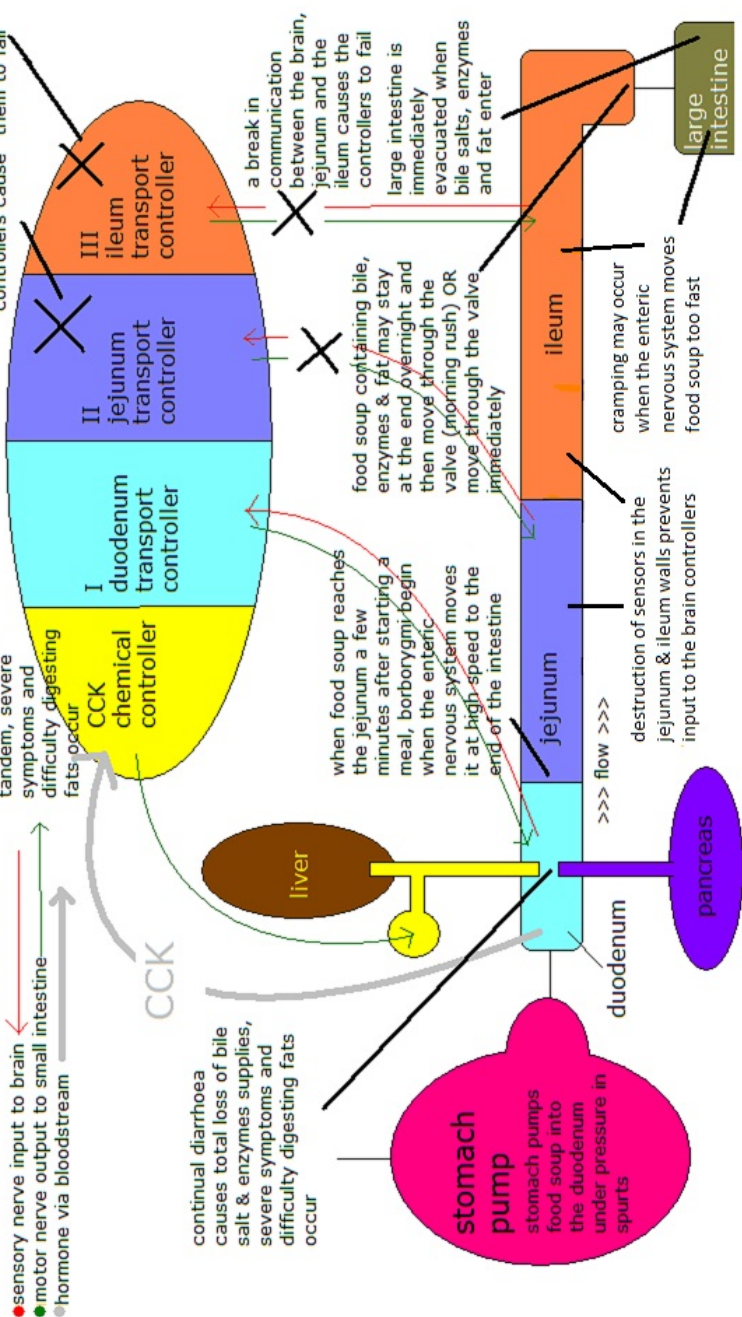
- If the valve that terminates the small intestine is shut tight (this happens at night), and the pushing of the enteric nervous system is weak, food soup stays at the end of the ileum. When you arise the next morning, the valve opens, and a 'morning rush' occurs.
- If the pushing from the enteric nervous system is strong enough, food soup moves through the valve immediately, and the colon is evacuated soon after.

Cramping may occur when the ileum moves food soup 'too fast', and when the colon evacuates at speed. The skin around the anus is irritated as raw protease enzymes are present in the BM. If diarrhoea continues unabated, then all supplies of digestive chemicals can be lost. This makes the symptoms worse and causes difficulty digesting fats. If IBS-B occurs in tandem then severe symptoms and difficulty digesting fats occur anyway. To relieve this problem the ileum needs to be slowed down, and the valve at the end of the small intestine kept firmly shut (most of the time). I tell you how to do these two things later.

Symptom Summary

A few hours after breakfast, borborygmii begin. Cramping is possible. Diarrhoea usually occurs next morning immediately on arising (the morning rush). Cramping may happen when the colon evacuates. Irritation of the skin around the anus is present. Continual diarrhoea & IBS-B cause severe symptoms and difficulty digesting fats.

IBS-D (ileum & jejunum stuffed)



IBS-D (ileum & jejunum affected)

When the neuro-transmitters in the jejunum & ileum brain controllers are deficient, output from the controllers fails. Now when food is present, the ENS takes over control and applies the MMC.

On starting breakfast, the stomach and duodenum work fine, but a few minutes later borborygmii start. Food soup has arrived at the jejunum, and the ENS now moves it at high speed to the end of the small intestine. This may take a few hours and cramping may occur. The ENS then tries to move the food soup into the colon;

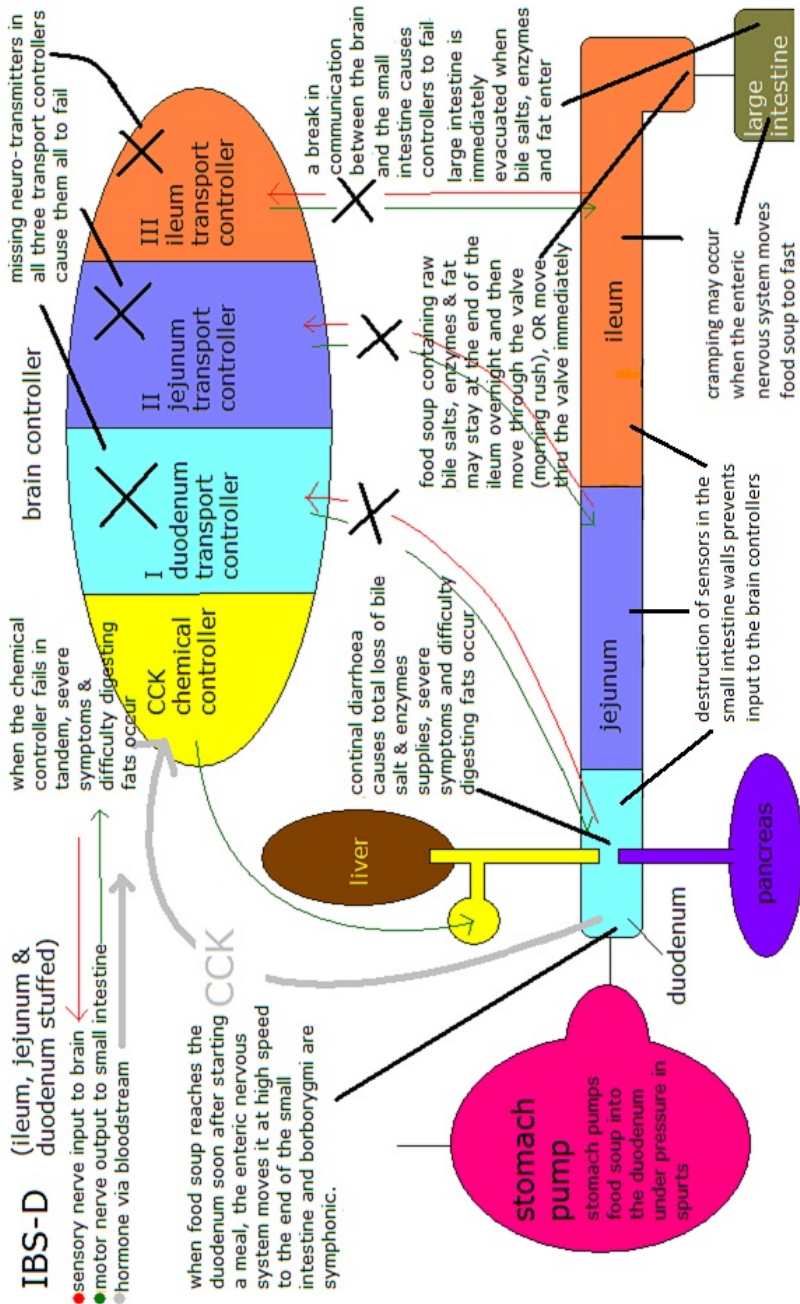
- If the valve that terminates the small intestine is shut tight (this happens at night), and the pushing of the enteric nervous system is weak, food soup stays at the end of the ileum. When you arise the next morning, the valve opens, and a 'morning rush' occurs.
- If the pushing from the enteric nervous system is strong enough, food soup moves through the valve immediately, and the colon is evacuated soon after.

Cramping may occur when the colon evacuates at speed. The skin around the anus is irritated as raw protease enzymes are present in the BM. If diarrhoea continues unabated, then all supplies of chemicals can be lost. This makes the symptoms worse and causes difficulty digesting fats. If IBS-B occurs in tandem then severe symptoms and difficulty digesting fats occur anyway.

To relieve this problem both the jejunum and ileum need to be slowed down, and the valve at the end of the small intestine kept firmly shut (most of the time). I tell you how to do these two things later.

Symptom Summary

A few minutes after breakfast begins, borborygmii and possibly cramping start. Diarrhoea can occur later in the day, OR the next morning immediately after arising (the morning rush). Cramping may happen when the colon evacuates at speed. Irritation of the skin around the anus is present. Continual diarrhoea and IBS-B cause severe symptoms and difficulty digesting fats.



IBS-D (ileum, jejunum & duodenum affected)

When the neuro-transmitters in the duodenum, jejunum & ileum brain controllers are deficient, output from the controllers fails. Now when food is present, the ENS takes over control and applies the MMC.

Immediately breakfast begins borborygmii start. Food soup has arrived in the duodenum and the ENS now moves it at high speed to the end of the small intestine. This may take many hours. Cramping may occur. The ENS then tries to move the food soup further into the colon;

- If the valve that terminates the small intestine is shut tight (this happens at night), and the pushing of the enteric nervous system is weak, food soup stays at the end of the ileum. When you arise the next morning, the valve opens, and a 'morning rush' occurs.
- If the pushing from the enteric nervous system is strong enough, food soup moves through the valve immediately, and the colon is evacuated soon after.

Cramping may occur when the colon evacuates. The skin around the anus is attacked by the raw protease enzymes present in the BM. If diarrhoea continues unabated, then all supplies of bile salts & enzymes can be lost, and the symptoms become severe with difficulty digesting fats. If IBS-B occurs in tandem then severe symptoms and difficulty digesting fats are present anyway.

To overcome this problem the duodenum, jejunum and ileum need to be slowed down and the valve at the end of the small intestine kept firmly shut (most of the time). We find out how to do these two things later.

Symptom Summary

Very soon after starting breakfast, borborygmii and possibly cramping begin. Diarrhoea can happen later in the day OR the next morning, immediately after arising (the morning rush). Cramping may occur when the colon evacuates. Irritation of the skin around the anus is present. Continual diarrhoea & IBS-B worsen the symptoms, and cause difficulty digesting fats.

The King's six neurotransmitter deficient IBS-D costumes are revealed!

Here they are for you to admire...

IBS-D Symptom Summary					
#	Brain controller...			Subtype	Symptoms
	CCK Chemical	I Duodenum	II Jejunum	III Ileum	
1	O	O	O	X	Borborygmii starts a few hours after eating. Cramping is possible. Diarrhoea can occur later in the day, but usually next morning on arising. Continual diarrhoea causes difficulty digesting fats & worsens symptoms.
2	X	O	O	X	Borborygmii starts a few hours after eating. Cramping is possible. Diarrhoea can occur later in the day, but usually next morning on arising. Severe symptoms and difficulty digesting fats. Continual diarrhoea causes difficulty digesting fats & worsens symptoms.
3	O	O	X	X	Borborygmii begin a few minutes after starting to eat. Cramping is possible. Diarrhoea can occur later in the day but usually next morning on arising. Continual diarrhoea causes difficulty digesting fats & worsens symptoms.
4	X	O	X	X	Borborygmii begin a few minutes after starting to eat. Cramping is possible. Diarrhoea can occur later in the day but usually next morning on arising. Severe symptoms & difficulty digesting fats. Continual diarrhoea causes difficulty digesting fats & worsens symptoms.
5	O	X	X	X	Borborygmii start immediately after beginning to eat. Cramping is possible. Diarrhoea can occur later in the day but usually next morning on arising. Continual diarrhoea causes difficulty digesting fats & worsens symptoms.
6	X	X	X	X	Borborygmii start immediately after beginning to eat. Cramping is possible. Diarrhoea can occur later in the day but usually next morning on arising. Severe symptoms & difficulty digesting fats. Continual diarrhoea causes difficulty digesting fats & worsens symptoms.
X = defective and O = functioning					

The King's six IBS-D costumes

If you examine the table displaying the six types of IBS-D, it can be seen that all six have two things in common;

- The ileum brain transport controller does not work.
- When two or more transport controllers are defective, then they control adjoining sections of the intestine.

An 'IBS Barrier' cannot form, so it is impossible to have bloating as a symptom. Constipation caused by food factors may occur, but there will be no bloating.

So when you have

Diarrhoea and NO bloating

Your illness is IBS-D

Even though you may have lots and lots of other symptoms,
the presence diarrhoea and the absence of bloating
are definitive for IBS-D.

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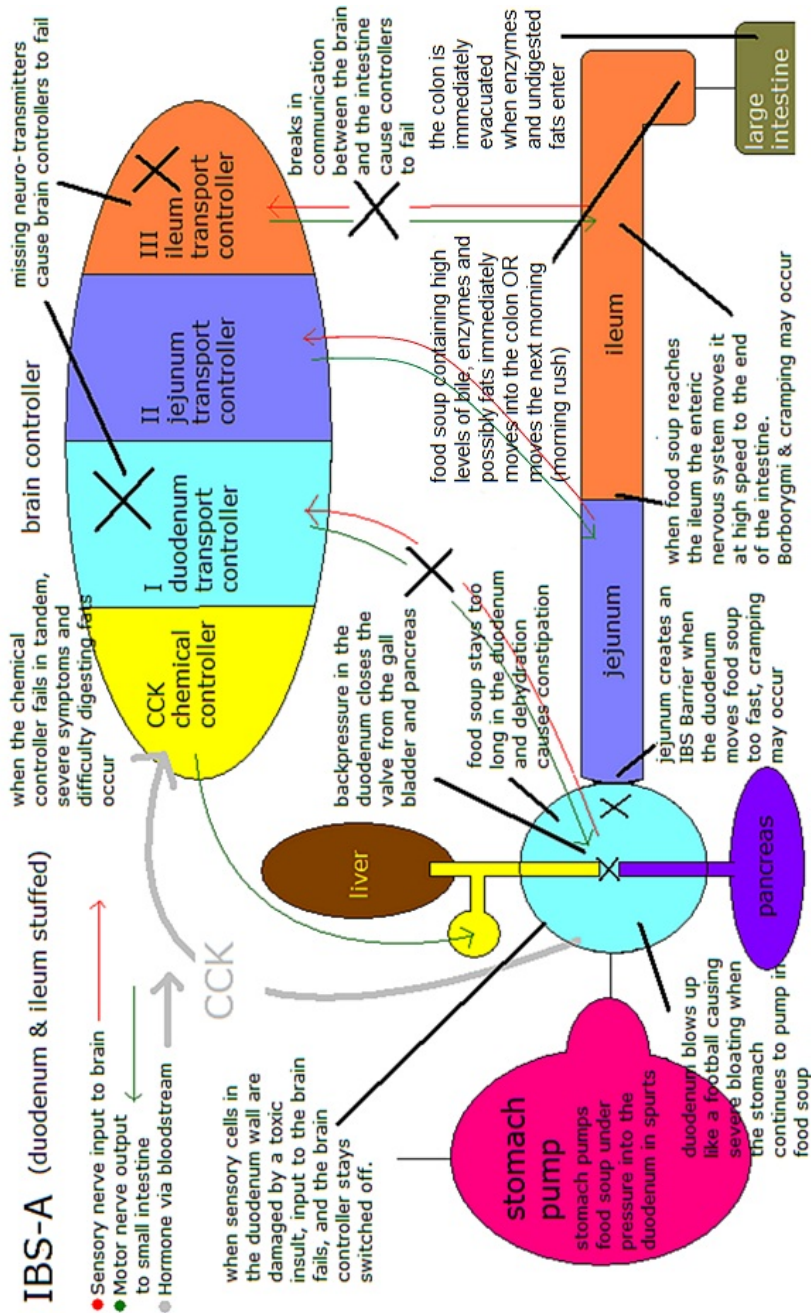
Congratulations!

You have finished the IBS-D master-class.

I hope you understood, but even if you did not, your IBS symptoms can be got rid of by learning to relax and eating one of the diets.

Next IBS-A... these guys have double trouble!

IBS-A (duodenum & ileum stuffed)



IBS-A (duodenum & ileum affected)

This type of IBS is caused by one combination of brain controller faults, and it can also have IBS-B in tandem with it. This creates a total of two subtypes. IBS-A is actually a combination of two types that we have already met. These are;

1. IBS-C (duodenum affected) and
2. IBS-D (ileum affected).

There is one difference from the explanation for IBS-D (ileum affected). It is that borborygmii will start at a different time. They now begin a few hours after the jejunum Barrier relaxes. If you read the explanations for these two subtypes and then combine them; it's not nice is it?

The symptoms of constipation and diarrhoea, alternate to the tune of the autonomic nervous system. If it is at a high level for long enough, the Barrier will persist until dehydration causes constipation. If it returns to a low level quickly, and releases the Barrier, food soup will arrive at the end of the ileum before morning, and either; move through the valve immediately or cause the 'morning rush'.

Symptom Summary

Soon after starting breakfast, severe bloating and possibly cramping begin. A few hours after the jejunum Barrier relaxes, borborygmii and possibly cramping can commence. Irritation of the anal area and difficulty digesting fats occur. Constipation and diarrhoea usually alternate irregularly, but if the Barrier relaxes quickly, then constipation may not occur at all as a symptom. Now initially a diagnosis of IBS-D may be given, but the symptom of severe bloating, points to IBS-A.

The King's two IBS-A costumes

The diagnostic symptoms for IBS-A are;

Bloating and diarrhoea

Even though you may have lots of other symptoms including constipation, the presence of severe bloating and diarrhoea are definitive for IBS-A.

The King's neuro-transmitter deficient IBS costumes

Wow! Here are the King's fifteen costumes laid out for you to see. As the researcher, I find them fascinating, but as a seriously ill man, I would like to burn them.

Instead I am asking for your help. Let's consign his wardrobe to a museum. I have designed new costumes for him, and these are revealed later in the book.

N.B.; the fifteen costumes I have shown here are those of neuro-transmitter deficient IBS. Other causes of IBS will produce different combinations of symptoms, with different timing.

Assumptions

The hypothesis fleshed out in this chapter has been put together over many years, by observing the symptoms of all types of IBS. It accounts for all the major symptoms, BUT I have had to make a few assumptions. Future research will confirm or deny the hypothesis.

The healing programs you will meet later in the book have been field tested, and most of the bugs ironed out. They do not depend in any way on the hypothesis, are working well now, and will be improved in the future.

Simple summary

You have IBS because your small intestine, and/or gall bladder and/or pancreas do not work properly. Now there is usually nothing physically wrong with them. The defects are in the brain controller(s) for the intestine and gall bladder, OR in the nervous system connections between; the brain, the intestine, and the gall bladder, OR in sensory nerve cells in the small intestine wall.

The doctors cannot find these faults so they give up and tell you that you have IBS. "Sorry, cannot do anything for you mate, but it's not going to kill you. It's probably all in your head".

For most of us, the faults cannot be fixed, and as there are five divisions of the autonomic nervous system and five hormones involved, it gets complicated. Yes, there are lots of types of IBS and lots of symptoms.

Scientific summary

The small intestine has three sections, in order; the duodenum, the jejunum and the ileum. Each part of the intestine has a brain controller to manage the transport of food soup. There is a fourth brain controller for managing the addition of bile from the gall bladder.

Failure of the brain controllers can be due to;

- A neuro-transmitter deficiency.
- A toxic insult to the walls of the small intestine.
- An infection in the small intestine.
- Surgical damage to the connections between the intestine, the gall bladder and brain.
- A failure to develop the nervous system fully in infancy.
- Pressure on nerves in the neck area.
- Anything preventing communication between the brain, and the small intestine/gall bladder.

The enteric nervous system (the nerves in the gut) has a backup role. It transports food soup when any brain controllers fail. It cannot do the same job as the brain and instead just moves food along with a program called the MMC. When you eat cereal fibre and fibre from the outer coat of legumes, OR eat foods not matched to your constitution, climate & lifestyle, OR get stressed, then the MMC goes 'too fast'.

When a brain controlled section follows a section controlled by the enteric nervous system, 'too fast' speeds are sensed by the brain controller and it blocks the intestine with an 'IBS Barrier'. It is programmed to manage the speed of food so that it goes slowly. The barrier causes constipation, bloating and cramping.

When the final section of the intestine (ileum) is controlled by the enteric nervous system, there is no brain controlled section following it. Now food soup is moved 'too fast' into the colon. The food contains undigested fats, and raw enzymes. These cannot be tolerated in the colon and it is evacuated immediately (diarrhoea).

The control systems of the small intestine are parts of the autonomic nervous system, and this is influenced by stress. When stress is high the autonomic nervous system is aggravated, and when stress is low it is relaxed.

49 - IBS Explained

There are natural daily fluctuations in the level of stress. It is highest in the morning soon after arising, causing the valve at the end of the small intestine to open (the morning rush), and strengthening the IBS Barrier (bloating and cramping). Stress reduces later in the day, and drops to its lowest level overnight when the valve at the end of the small intestine is firmly closed, and any Barrier relaxes.

IBS causes stress. Stress is also caused by modern lifestyles. Stress aggravates the autonomic nervous system and triggers IBS symptoms.

So why do I have IBS?

- If you have a neurotransmitter deficiency, then your parents did not create you with a full complement of neurotransmitter manufacturing cells in one or more of the small intestine brain controllers. There may be a genetic component. A diet of junk food has then exhausted your capacity to make more neurotransmitter(s).
- You may have damaged the sensory nerve cells in the walls of your small intestine with toxins or an infection. Now no signals get sent to the brain controllers, so no output is possible. Also the cells releasing hormones from the walls of the duodenum are likely to be damaged, and the operation of the gall bladder & pancreas is affected. This type of IBS is very difficult to treat.
- The surgeon may have severed motor nerves from the brain to the small intestine, and/or sensory nerves from the intestine to the brain, during an operation. Now the brain controller(s) cannot control the intestine.
- Your nervous system may not have developed completely when you were an infant. This may be due to a developmental, genetic or environmental defect. Perhaps your parents were genetically defective, or malnourished, or your mother failed to breastfeed you for long enough and the diet she fed you later was poor, or some other reason.
- Your neck vertebrae may be placing pressure on nerves connecting the brain and the small intestine. If you suspect that this is the problem then a Chiropractor or Osteopath may be able to help. Following treatment to realign vertebrae, you will be given exercises to maintain their new positions. A Palaeo diet is also advisable. Your IBS symptoms will temporarily cease following manipulation if this is the cause.

Chapter Four - Factors modifying IBS symptoms

IBS produces many symptoms, and the symptoms have a large range of variability. You have just viewed some of the King's costumes and it was a bit complicated wasn't it? Add in all the factors in this chapter and well, complicated is an understatement.

Speed of the Migratory Motor Control (MMC)

The speed of the MMC in the defective part(s) of your small intestine depends on the type of food that you eat, and stress.

- *Constipation*; the Barrier is strong when the speed is high. A strong Barrier produces a complete halt for long periods, causing dehydration and constipation. The longer the Barrier lasts, the worse the dehydration is, and the processes of the small intestine after the Barrier may not be able to be completed.
- *Diarrhoea*; at slow to moderate speeds in a defective ileum, food soup waits at the end until morning when the exit valve opens. At high speeds the ileum will immediately push food soup through the valve. The presence of raw enzymes and fat in the colon will cause the enteric nervous system to evacuate the colon. The larger the amount of enzymes and fat in the food soup, the faster the evacuation will be. Cramping will happen if the speed is very fast.
- *Cramping*; occurs when a Barrier is formed with its associated bloating. The 'too fast' section of the small intestine attempts to move food through the Barrier. The faster the speed, the harder it tries, and the stronger the Barrier becomes. When a Barrier is not present, cramping and borborygmii occur when the muscles lining the intestine make a big effort to achieve the 'too fast' speed.

Summary; the speed of the MMC depends on your diet & lifestyle and it varies from a complete halt, to very fast, and every variation in between. To an uneducated outside observer, the symptoms created are almost impossible to understand.

Food Factors

Food fibres

When the enteric nervous system controls movement of food soup in the small intestine (MMC), the transport speed varies according to the type of food eaten.

Now there is a range of types of insoluble fibre in food. Some types stimulate the enteric nervous system to trigger a 'too fast' speed. Some have a variable effect, sometimes fast, sometimes slow, and sometimes normal. Some stimulate the enteric nervous system gently, and the speed is slow to normal.

A table of the transport speed of foods, when the enteric nervous system is in control of the small intestine, follows. The speed depends on how the food is processed, prepared, cooked, presented, and when it is eaten! In other words expect a range of speeds within 'too fast', 'variable', AND 'normal'.

<i>Food</i>	<i>Speed</i>	<i>Food</i>	<i>Speed</i>
Wheat flours	too fast	Teff flour	too fast
Oatmeal	too fast	Sorghum flour	too fast
Barley (pearl & flour)	too fast	Whole legumes	too fast
Rye flour	too fast	Split hulled legumes (dahls)	variable
Whole brown rice	too fast	Vegetables	variable
Polished rice	too fast	Ripe Seasonal Fruits	NORMAL
Corn meal	variable	Animal foods	variable
Millet meal	too fast	Nuts & seeds	variable
Fonio	not tested	Hemp seed meal	too fast

Cereals (except corn), whole legumes, and hemp seed meal, always trigger 'too fast' speeds when the MMC is in charge.

I have examined the insoluble fibre in cereals and legumes with a microscope, and here is what I found;

Cereals

- ***Whole wheat flour***; causes severe IBS symptoms. The fibre consisted of 'two dimensional' flakes of bran with sharply defined edges, ranging in size from 2mm to 0.01mm.
- ***Whole white rice***; causes moderate symptoms of IBS. The fibre consisted of large 'two dimensional' flat sheets with sharply defined edges, ranging in size from 2mm to 5mm.
- ***Corn grits***; usually cause no IBS symptoms. At 40x magnification the fibre consisted of three dimensional amorphous clumps and fragments. The fibre appears to be tangled clumps of soft fibrils at 400x magnification.
- ***Oatmeal***; causes moderate symptoms of IBS. The fibre consisted of moderate quantities of 'two dimensional' flat sheets of bran with sharply defined edges, ranging in size up to 1.5mm.
- ***Wholemeal rye flour***; causes severe symptoms of IBS. The fibre consisted of large quantities of 'two dimensional' flat sheets of bran with sharply defined edges, ranging in size up to 1.5mm.
- ***White barley flour***; causes mild symptoms of IBS. The fibre consisted of small quantities of 'two dimensional' flat sheets of bran with sharply defined edges, ranging in size up to 0.5mm.
- ***White millet flour***; causes mild symptoms of IBS. The fibre consisted of small quantities of 'two dimensional' flat sheets of bran with sharply defined edges, ranging in size up to 0.5mm.
- ***Wholemeal teff flour***; causes severe symptoms of IBS. The fibre consisted of large quantities of 'two dimensional' flat sheets of bran with sharply defined edges, ranging in size up to 0.5mm.
- ***Wholemeal sorghum flour***; causes severe symptoms of IBS. The fibre consisted of large quantities of 'two dimensional' flat sheets of bran with sharply defined edges, ranging in size up to 0.5mm.

Legumes

- ***Haricot bean endosperm (internal portion)***; usually causes no IBS symptoms. The insoluble material was obloid and spherical lumps, 0.1 to 0.2 mm in diameter. Sharp edges were not visible.
- ***Haricot bean external coat***; causes severe IBS symptoms. The fibre consisted of flat two dimensional fragments about 1 to 5 mm in size. At 400x magnification the material is seen to be composed of densely packed sharp crystalline rods, about 0.03mm long and 0.01mm in diameter. They are like tiny glass chisels. The rods are orientated at 90 degrees to the surface of the endosperm.
- ***Moong bean endosperm***; usually causes no IBS symptoms. The fibre consisted of obloid to spherical lumps, 0.1 to 0.2 mm in diameter. Sharp edges were not visible.
- ***Moong bean external coat***; causes moderate IBS symptoms. The fibre is fragments of light coloured coat with dark veins. The veins contain sharp crystalline rods orientated like the sleepers on a railway track.

Summary: classification of insoluble fibre

Currently all insoluble fibres are treated as being similar, but I have identified four distinct types of insoluble fibre in food;

1. ***Cereal bran***; sharp edged 'two dimensional' flakes present in all cereals except corn. This fibre triggers IBS symptoms.
2. ***Legume micro-crystalline fibre***; sharp edged crystalline rods are found in the external coats of all legumes. They trigger IBS symptoms.
3. ***Hemp seed meal***; sharp edged fragments of seed coat. This fibre triggers IBS symptoms.
4. ***Soft insoluble fibre***; found in corn, the insides (endosperm) of legumes, fruits, vegetables, nuts, seeds, herbs, spices, & animal foods. This fibre does not usually cause IBS symptoms.

Fast food

The speed of the MMC, is increased by;

- Eating the insoluble fibre (bran) present in most cereals. The amount of bran (small sharp fragments of external coat) determines the speed. Wholemeal flours (machine ground) contain the largest amounts of sharp fragments, and cause the fastest speeds.
- Eating the insoluble sharp micro-crystalline rods in the outer coat of legumes. Some legumes have lesser amounts of this fibre in them (e.g. moong beans) and trigger slower 'too fast' speeds.
- Eating the ground seed coat of hemp seeds.
- Eating out of season, badly chosen food, in the wrong amount, at the wrong time. E.g. unripe, bitter, out of season fruit (supermarket apples).
- *When the weather is hot or humid;* eating too much pungent food (chilli), sour food (alcohol), and salt.
- *When the weather is cold or dry;* eating too much bitter food (egg white, bitter teas, coffee, chocolate, red wine).

Slow food

Speed of the MMC is decreased by;

- *Cooked proteins;* when you heat protein foods (except dairy protein) above 40 degrees Centigrade, chemicals called Heterocyclic amines (HCAs) are formed. These have an anaesthetic action and slow the digestive system when eaten without sufficient fat.
- *Dairy proteins;* these contain opioid peptides (short chains of amino acids), that slow the digestion. Pasteurized dairy foods that are cold & sweet also slow the digestion.
- *Gluten from cereals;* contains opioid peptides that slow the digestion.
- *When the weather is hot or humid;* eating too much bitter food, eating too much astringent (dried fruits).
- *When the weather is cold or dry;* eating bitter food, eating astringent food, eating too much super-sweet & cold food (ice cream, coconut cream).

Bad Food

Many foods available in a modern supermarket are unfit for human consumption. They are bred/made/manufactured to look good, have a long shelf life, and be available out of season, but their nutritional qualities are poor. I will make an example of the modern varieties of apple. They have nice shiny colourful exteriors and keep for up to 12 months in a low temperature, controlled atmosphere store. However when you cook them they stay hard for 30 minutes or more. When these apples are eaten raw they are practically indigestible, often bitter, and are likely to trigger IBS symptoms. Contrast them with a heritage variety like a tree ripened Granny Smith. This cooks to a soft pulp in 5 minutes or so, and can be easily digested when eaten raw.

Unseasonal Food

Eating out of season food is likely to trigger IBS symptoms. Again I use the example of the apple. A tree ripened Granny Smith apple will digest easily when eaten raw in late summer/autumn soon after harvesting. If eaten raw later in winter it is likely to cause IBS symptoms. Instead it should be cooked and eaten hot. Then it will cause no problems. A tree ripened banana will digest easily when eaten raw in the tropical region where it grows. When unripe bananas are harvested, stored for months in a refrigerator while being transported to temperate or even arctic regions, ripened artificially, and then eaten raw, they are bitter and likely to cause IBS symptoms.

Malnutrition & micro-minerals

Modern diets cause malnutrition. Processed foods such as; cereals, legumes, vegetables, and other cooked foods eaten without sufficient fat, depress the immune system. If IBS occurs as well then the malnutrition is aggravated, and it produces many & varied symptoms. Perhaps the worst one is depression.

When a high starch, low fat, Neolithic diet is eaten, essential micro-minerals are supplied by the bacteria that digest residual starch & protein in the colon. These bacteria turn indigestible micro-minerals into forms that can be absorbed. When IBS occurs, food may not reach the colon in a form that can be transformed, or colonic bacteria may be expelled before they can make absorbable micro-minerals. Lack of these minerals causes depression, malnutrition, and aggravates IBS symptoms.

The easy anti-IBS diet

Question;

I am eating the Easy Anti-IBS Diet and my symptoms have subsided, BUT I have noticed that my physical performance is awful and mental tasks like maths have become difficult. What is happening?

Answer;

This diet uses cooked proteins to slow down the defective parts of your small intestine and stop your IBS symptoms. Compounds called HCAs do the slowing. They are created by heating proteins (meat, fish, egg yolks, but not dairy) above 40 degrees Centigrade. Most HCAs are not digested and are expelled in your BMs, but some are absorbed into the body. Unfortunately these absorbable HCAs mimic neuro-transmitters and interfere with nervous system function. To stop this side effect eat a Palaeo diet, where all proteins except dairy are either eaten raw, or with enough fat to neutralize the HCAs.

Lifestyle factors

- *Weather;* cold and dry conditions worsen symptoms (temperate winters, arctic regions and high altitudes), warm and wet conditions improve symptoms (tropics, temperate summers).
- *Time of Life;* when we are young our IBS is not so bad. As we get older, it increases in intensity. It is worst when we are very old.
- *Body Type;* some types of people suffer more from their IBS symptoms than others do, due to their physical makeup. Those that suffer most are thin and underweight. Substantial constitutions cope better.
- *Stresses and strains;* these affect the level of adrenal hormones in your body. High levels of these hormones cause the autonomic nervous system to be in an elevated state. Low levels cause the autonomic nervous system to be a relaxed state.
 - The small intestine is controlled by five divisions of the autonomic nervous system (four brain controllers, and the enteric nervous system). So IBS symptoms are affected by lifestyle factors that raise and lower the levels of adrenal hormones.

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- When adrenal hormones are low (relaxed state), symptoms are less. When adrenal hormones are high (stressed state), symptoms are worse. IBS symptoms cause stress and stress increases symptoms, **but stress does not cause IBS**.
- Adrenal hormone levels rise and fall in natural cycles. They are high just after arising in the morning. IBS symptoms worsen at this time. The IBS Barrier is created (bloating, cramping) when breakfast is eaten, and the morning rush starts when the valve terminating the small intestine opens. During the day, if a stressful event occurs, then symptoms again increase in intensity. Later in the day or overnight we relax, bloating & cramping subside, and the terminating valve closes firmly. This coincides with a fall in adrenal hormone levels.
- We CAN learn to lower our adrenal hormone levels, and keep them low. This is called *Relaxation Therapy*. When we learn to relax, then IBS symptoms are minimised.

IBS factors

The small intestine is the heart of the digestion, and a central part of the body's biochemical processing activities. When its control systems malfunction, the effects can be wide ranging.

Duodenum

The tasks of the duodenum are to; receive food soup from the stomach, release hormones, release sufficient digestive chemicals, mix them in, emulsify fats, and transfer the food soup to the jejunum at the correct speed and time.

- *GIP hormone* (Glucose-dependent Insulinotrophic Peptide) is released into the bloodstream when food enters. This stimulates insulin release from the pancreas, and slows down the rate at which the stomach empties. Insulin is needed to move the sugars (that are about to enter the bloodstream), into cells. If this task is compromised then symptoms similar to type II diabetes may be present.

- *Secretin hormone*; is released into the bloodstream when food enters. This hormone causes the pancreas to release protease enzymes and bicarbonate into the duodenum. Human digestive enzymes will not work in acid conditions, and so alkaline bicarbonate is needed to neutralize stomach & food acids. If this task is compromised then the small intestine is unable to digest food.
- *Cholecystikinin (CCK) hormones*; there are three of these hormones released into the bloodstream when food enters;
 - One stimulates the CCK brain controller for the small intestine. A nerve signal is then sent to the muscle that empties the gall bladder, and sufficient bile is pushed into the duodenum.
 - A second stimulates the pancreas to release lipase enzymes into the duodenum.
 - The third slows down the rate at which the stomach pumps in food soup (inhibits gastric emptying).

If a Barrier at the start of the jejunum is present, then back pressure in the duodenum closes the valve covering the ducts from the gall bladder and pancreas. Now, insufficient bile, enzymes and bicarbonate are added to the food. Later, when the Barrier relaxes, the jejunum will receive food soup that is possibly acidic, contains insufficient bile & enzymes, and fat that is not emulsified. It cannot digest this and so will move it into the ileum as quickly as possible. If dehydration has occurred in the duodenum, the jejunum will have to work much harder to move the food along, causing painful indigestion.

Jejunum

The tasks of the jejunum are; to mix food soup so that nutrients are digested & absorbed at the correct rate, and to move food soup to the ileum at the correct speed (slow) & time (when all nutrients have been absorbed).

Problems from a defective duodenum; this causes a jejunum Barrier, and dehydration may cause the food soup to become too thick. When the jejunum Barrier is released later in the day, nutrient uptake is slowed in the jejunum, the soup is retained longer, and constipation is aggravated. Back pressure and/or IBS-B, or other problems in the duodenum, may result in insufficient bicarbonate, bile and/or enzymes in the food. This cannot be digested and the jejunum will move the indigestible food to the ileum, with borborygmii and cramping.

Problems from a defective jejunum; there is no mixing or timing, the rate of nutrient uptake is dependent on diffusion, and it cannot be adjusted. Food soup can travel rapidly to the end of the jejunum, possibly with cramping, then sit behind an ileum Barrier so that dehydration, and mild, hard to detect, bloating occur. Cramping may occur when the jejunum tries to move food soup through the Barrier. Uptake of carbohydrates is insufficient when it is cold, and this may cause frozen fingers, toes and face (Raynaud's disorder). Uptake is too fast when it is hot and this may cause overheating.

Ileum

The tasks of the ileum are; to mix food soup efficiently so that bile salts & enzymes are recovered & recycled, to dehydrate the soup and ready it for release into the colon, and to move it into the colon at the correct time (on arising in the morning).

Problems from a defective duodenum; when problems in the duodenum cause the food soup to contain undigested fat, then the ileum will move the soup rapidly to the end of the small intestine with borborygmii & cramping. Enzymes and bile salts will not be removed efficiently. It may then be pushed into the colon immediately or enter the colon the next morning (the morning rush).

Problems from a defective duodenum and/or jejunum; the Barrier causes dehydration. This makes the job of the ileum more difficult as the soup is too thick when it finally enters the ileum. Recycling is slowed and constipation becomes worse as the ileum must retain the soup for a longer period.

Problems from a defective ileum; a defective ileum moves food soup into the colon too soon. The soup may be acidic, and contain raw enzymes & undigested fats. The colon evacuates immediately when this happens.

- A defective ileum cannot mix the food soup and efficiently control recycling of chemicals, so food soup that still contains high levels of bile salts & enzymes, is pushed into the colon and diarrhoea occurs. Continual diarrhoea depletes the body's supply of these chemicals, and they cannot be manufactured quickly enough to compensate for the loss. If the stocks of chemicals become too low there will not be enough to digest the next meal.

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- Excessive loss of bile salts (made from cholesterol) causes a cholesterol deficit in the body. Cholesterol can only be made slowly so that organs containing large amounts of cholesterol have to provide some. The brain is where most cholesterol is located and when the body removes cholesterol from the brain, visual hallucinations are triggered.

Colon

The colon (large intestine) receives a batch of food from the ileum in the early morning, dehydrates it, conditions it, and releases it from the anus next morning. If the new batch of food from the ileum is acidic, or contains high levels of raw enzymes, or undigested fats, then the colon gets rid of it immediately. The higher the levels of fat, enzymes and acid, the faster and more painful the evacuation is.

Development of symptoms

Question; I used to be able to eat whatever I liked but now food often makes me ill. What is happening to me?

Answer; when you were born you had enough neuro-transmitter in each of your small intestine brain controllers, but now neuro-transmitter production is not sufficient. Your parents did not give you a full complement of neuro-transmitter manufacturing cells and you have gradually worn out what you had by eating junk food (cereals). Here IBS creeps up like a stealth bomber and then drops a payload of nasty symptoms on you. Symptoms are at first intermittent, then they gradually increase in frequency and intensity over many years, until one day you realize that you have a big problem!

A neuro-transmitter deficiency in a small intestine brain controller can gradually develop over many years. I will use my own illness (IBS-D) as an example. Symptoms began at age 14. Sometimes there would be an interval of as much as year or two between occurrences of symptoms. By about age 45 however, the 'morning rush' was with me every day. By about age 50 severe IBS-D was ruining my life.

Question; I have intermittent IBS symptoms, occurring at all sorts of odd times. There seems to be no pattern to them. I get diarrhoea but seldom a 'morning rush'. I get constipation but I have no bloating. Why is this?

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Answer; if neck vertebrae are out of alignment, then they can place intermittent pressure on nerves connecting the small intestine and the brain. IBS symptoms can occur anytime.

Question; I got severe food poisoning on an overseas trip and was hospitalized for 2 weeks, now I have IBS symptoms every day. What has happened to me?

Answer; Damage to nerve sensors in the walls of the small intestine from a toxic insult like food poisoning, will trigger symptoms immediately.

Question; I had an abdominal operation last year and since then IBS has been giving me hell. What's wrong?

Answer; Severing of nerves connecting the brain to the small intestine during surgery to the abdomen will result in the immediate appearance of symptoms.

Question; I have had IBS ever since I can remember. My mother says that I had it when I was only a few months old. Why?

Answer; if an infant does not develop nervous system connections from the brain to the small intestine soon after birth, or is born with a neurotransmitter deficiency in the small intestine brain controller, IBS occurs as soon as solid foods are fed.

Factors impacting the rest of the body

The autonomic nervous system faults that directly cause IBS symptoms also produce indirect symptoms in the rest of the brain & nervous system.

The small intestine brain controller is part of the body's interconnected network of autonomic regulation systems. These systems keep you in balance and ready to rumble. When IBS occurs, the rest of the network does not receive feedback from the small intestine controllers AND when instructions go to the controllers from the network, there is no response. As a result, many biochemical processes cannot be correctly regulated.

Cholesterol and hallucinations

Those who have IBS-B, IBS-D & IBS-A can suffer from visual hallucinations. These are multi-coloured kaleidoscopic patterns appearing in front of your eyes. They can occur at any time, and are followed by headaches and poor brain performance over the next 12 hours or so. If a headache is present on arising, then it is likely that hallucinations have happened during sleep. This symptom is caused by the failure of the body's cholesterol regulation system.

Cholesterol is a vital biochemical. It is used in the brain & nervous system, in cell walls, in bile salts, and in hormones. The body makes cholesterol, but slowly. Cholesterol is found in raw animal foods. Raw egg yolks, raw fish roes, raw shellfish, and raw animal organs (brain, liver) are good sources. Raw meats, raw fish and raw milk contain much smaller amounts.

Cholesterol is used to make bile salts which are stored in the gall bladder. This removes it from circulation. The bile salts then emulsify fats in the first and second sections of the small intestine. Later in the third section (ileum) they can be recycled. The ileum brain controller manages this recycling process. When the circulating cholesterol level is low, most bile salts are recycled. When the circulating cholesterol level is high, bile salts are allowed to escape via the stool.

- A defective ileum brain controller can no longer manage the recycling of bile salts, and large amounts can be lost. The body marshals some of its available cholesterol to make more bile salts. The brain has to supply part of this and the removal process causes visual hallucinations.
- When the CCK controller is defective (IBS-B), the brain can no longer release bile from the gall bladder, so it becomes full and cannot be emptied. Now when raw cholesterol is eaten, the level cannot be reduced by making bile salts. The only way to reduce cholesterol is to move it into organs like the liver and brain. A high level in the brain produces visual hallucinations.
- This side effect can be largely overcome by adjustments to diet. Full instructions are given later in the treatment programs.

Malnutrition

Humans have large hungry brains that require plenty of nutrients, delivered at the right time. We have already met the 'trace mineral deficiency' depression that is caused when IBS impairs bacterial digestion in the colon, but the malnutrition caused by no timing, no mixing, and problems with fat digestion, results in the brain not receiving all the nutrients it requires at the right time. It lets you know about this with symptoms like depression and headaches.

All other parts of the body, including the immune system, are also affected. Literally dozens and dozens of illnesses can occur due to this malnutrition. Many are minor, but major ones can occur too.

Raynaud's Disorder

This is when the fingers, toes or face are exposed to cold air and become white/blue and unresponsive. It has many causes and IBS is one of them. When the cold insult occurs, the autonomic nervous system tells the jejunum controller to absorb more sugar that can be reacted to quickly supply heat to the affected areas. When the jejunum is defective, it can no longer increase the rate at which sugars are absorbed into the bloodstream, and so Raynaud's Disorder occurs.

Medical factors

Diagnosis

The doctor has diagnosed your illness as IBS. Now doctors do not know (yet) what causes IBS. So they end up diagnosing IBS when they cannot find another reason for your symptoms. There is nothing wrong with your digestive system and yet it does not work!

The doctor might be wrong. You may not have IBS, or you may have IBS with complications, or you may have a disorder that produces symptoms similar to IBS. So if your symptoms do not fit into one of the types of IBS I have described, then you should ask your doctor to do further tests.

But the treatment programs in this book can help even if you have some other illness.

Well, I did warn you, it's complicated.

But you have now reached the important part of the book.

This is where you find out how to fix yourself up!

Chapter Five - Healing Irritable Bowel Syndrome

The correct diet for a human

Humans are fruitarian apes. Our digestive system is designed to digest raw fruits, raw nuts & seeds, & raw animal foods. We cannot digest cereals, legumes, most vegetables, and cooked proteins. When we eat these foods (Neolithic Diet), they are digested for us by bacteria in the colon.

About 10-20 thousand years ago we chose to use the colon to digest our food instead of the small intestine. For hundreds of millions of years our ancestors did not use the colon in this way, and we do not possess the biochemical processing necessary to cope with the results. One of the results is IBS.

The toxins in the Neolithic foods and the toxins released by the bacterial digestion in the colon, cause most of our illnesses. They depress our immune system, stunt our growth, reshape our skeletons, weaken our muscles, handicap our children, fill our prisons & mental asylums, and cut short our lives.

This 'new' diet we have adopted is unsustainable. If we continue to eat it, we will eventually become incapable of reproducing. The number of caesarean births will continue to rise, and the number of handicapped children will skyrocket. After decades of vaccination combined with Neolithic junk food, we will become so weak that common micro-organisms will easily defeat our depressed immune systems.

Wai Genriiu's research (www.waisays.com), has identified man's natural diet. I will briefly summarize her findings for you;

Homo sapiens (that's us) evolved from a long line of apes. Our ancestors lived in tropical Africa, in jungle and savannah/grasslands. They had hands to climb trees, pick eggs, fruits & nuts, catch lizards & insects, and make spears. They had long legs to run after game animals. They were hunter-gatherers. This was in the very recent past, mere seconds ago in the day of our evolutionary history.

We can see how our ancestors lived by looking at the diet and lifestyle of our closest relative, the chimpanzee. Our cousins have a digestive system similar to ours. It is the digestive system of a fruitarian. We and the chimpanzee cannot make vitamin C and a number of B vitamins needed to process proteins. These nutrients are found in fruits and animal foods.

Chimpanzees eat fruits, nuts and seeds, supplemented with insects, and the occasional larger animal. All are eaten raw. We should be eating a similar diet.

We are not herbivores, omnivores or carnivores;

- Herbivores have long, toughened, digestive systems. They have either multiple stomachs, or a caecum (hind gut), to ferment vegetable material (ruminants, horse, gorilla, rabbit).
- Omnivores have digestive systems that can safely ferment plant material and digest animal foods (rat, pig, bear).
- Carnivores have short, delicate digestive systems, designed only for animal foods. Their bodies can manufacture vitamin C, & the B vitamins needed to process protein (cat, dog, seal)

Humans are fruitarians

We have a digestive system that can digest raw fruits, raw nuts & seeds and limited amounts of raw animal foods. Our bodies cannot make Vitamin C, and the B vitamins needed to process animal foods. We get these from eating raw fruit. We also struggle to make sufficient cholesterol and C20+ unsaturated fats, to build our huge brains. These can be obtained by eating raw animal foods.

Three steps to freedom

STEP ONE - Change your diet

I have developed two diets. When you eat one of these, IBS will become a lot quieter and if you add step TWO, symptoms will almost vanish. They are;

1. *The Easy Anti-IBS Diet*; for those of you who just want to get better, and are not worried about your performance, this is the most suitable one. It has some side effects but they are much less of a problem than IBS. You can eat most foods except those containing starch. A modified version of this diet (with vegetable starches added) can be eaten by those who have problems with the pancreas.
2. *The Simple Palaeo Diet*; this is a high performance diet for those who want the absolute BEST for themselves. It is more challenging to implement than the Easy Anti-IBS Diet, and is not suitable if your pancreas is defective.

STEP TWO - Practise a relaxation therapy

Most modern people are stressed. Their lifestyle habits frighten their bodies, and they operate with high adrenal hormone levels much of the time. When they get IBS, this stress makes the symptoms worse. This is because a high level of adrenal hormones pumps up the autonomic nervous system, and IBS is a disorder of this system.

Relaxation therapies teach the body to operate so that adrenal hormone levels are low. This reduces the intensity of IBS symptoms and when combined with one of my diets, largely eliminates them.

These therapies take a few months of daily practice to learn, and then you need to reinforce them with regular practice several times a week. After many years, your relaxed state will become permanent, and you can stop the therapy. When you rid yourself of stress, and eat one of my diets, IBS cannot ruin your life anymore.

STEP THREE - Educate yourself

Use this book to find out how your digestive system works, how the autonomic nervous system causes IBS, and how to successfully treat your IBS symptoms.