THE LARGE INTESTINE

Our electrical signal is opening the ileocecal valve for this mix to slide into the large intestine.

No need to hold your nose. It's not smelly in here anymore. Making our way through the large intestine is the longest leg of our journey through the gut. This section of the tube is a lot shorter than the small intestine—only 3 to 5 feet long—wider and not so many curves. We have more room to maneuver as the large intestine or colon is more than double the circumference of the small intestine.

Take a peek in that little sac before we start climbing the first section—or the ascending colon. That's the appendix. It's known to be a waste receptacle to collect toxins. When it gets overloaded, it can get quite painful. The appendix is part of the lymphatic system—the circulatory system that among other things, collects and carries away our wastes. When you clean up your body, the cells that make up your appendix and other lymph storage sites can keep up with the process of collecting and dumping our garbage ... without getting overloaded.

Good thing we have help with this climb. Notice how this tube is a series of pouch-like sections. The natural peristaltic or vortexian movement in here slowly pushes us up—from pouch to pouch. We can relax and ride along. It shouldn't take us more than about 10 hours at the most to round the first major turn. Before Human did some housecleaning in here, it took us more than twice that long for this leg of the journey. Sometimes the mix was stuck in

here for days! Once around the curve, we'll travel across the body in the transverse section of the colon. We'll then round the second major turn and head down the descending colon. After zig-zagging continuously along the small intestine, this ride seems tame with only the two major curves.

Since we left the mouth several hours ago, most of the nutrients have been absorbed from this mix. So, what's left to do in here? The mucous lining on this tube is moist and alive with several hundred different microorganisms. The ones that have the potential to create disease are working in harmony with the other microbes. That's because there's enough good bacteria to keep them in check. Both the good and bad micro-organisms serve a useful purpose in our Creator's grand scheme to keep Human running well. These microbes have started a tough job—digesting what wasn't digestible earlier in the tract. Cellulose or the tougher fiber from vegetables and grains arrive here undigested—that's good! It's important we have enough fibrous material to form feces or bowel movements to sweep along the waste products so we can eliminate them from the body. These busy microbes are working to produce enzymes that digest the cellulose or fiber that we need to move the wastes along.

WHAT'S IN A NAME

Are you wondering what the difference is between the large intestine and the colon? They are both part of the bowel. The large intestine is the complete package which includes the entry area or cecum with the appendix, the ascending colon, transverse colon, descending colon and a short section called the colon or sigmoid colon that will take us over to the rectum and eventually out the anus.

Let me tell you what it used to look like in here when we didn't have the fiber we needed to keep the waste material and parasites moving along. Excess mucous, an overload of yeasts and the raucous, less friendly microbes gradually created a sticky, glue-like coating on this lining. This coating was a welcome home for worms and other parasites. We weren't able to readily move them along so they gained a toehold for their hooks. They found a cozy home to lay their eggs and raise their offspring. The coating got thicker and thicker. As the coating built-up, the shapes of the pouches changed. The channel in some pouches was no wider than a pencil! Took a long time to squeeze through those sections. Other pouches had ballooned out to accommodate the sludge stuck to the walls. In some pouches, the sludge weakened the lining to form little protruding sacs—great storage pockets for the mixture of mucous, pathogens and parasites! All the misshapen pouches kept slowing the journey more and more.

Back to the good news. Human has restored the natural mucous in this lining and the bacterial lawn so they provide a protective coating. They make an awesome team to keep

you healthy. When we have what we need to keep it clean in here, the time to travel from the mouth and out the anus at the end of this tube should be more like 24 to 48 hours. Human was surprised to learn that in native cultures in parts of the world where only natural, fresh food is available, the time from mouth to elimination is only 12 to 18 hours. They usually defecate after every meal. With a good diet, young children have two or three bowel movements a day too. When Human was at the lowest ebb, it sometimes took a week to finish the trip from mouth to anus.

As a caution and a reminder of the havoc that potentially harmful microbes can create if they are allowed to multiply rather than be kept in check by the healthful microbes, here's their rap for you. They each have a role to play as long as their growth is limited. Here's the "Pathogens' Song":

WE LOVE IT WHEN ... WE GET SUGAR AND LOTS OF CAFFEINE,
ALLOWS US TO CONTROL THE WHOLE BIG SCENE.
WE LOVE IT WHEN ... YOU ADD ALCOHOL AND DRUGS,
ADDICTIONS MAKE US A STRONG GANG OF THUGS,
WE LOVE IT WHEN ... WE SLURP SLOW-LEAKING MERCURY,
A CHANCE TO DANCE WILD AND MALICIOUSLY,
WE LOVE IT WHEN ... YOU SIP CHLORINE AND FLUORIDE,
NO NEED FOR US TO SLOW OURSELVES AND HIDE!
WE LOVE IT WHEN ... WE GET A DOSE OF PESTICIDES,
OVERTAKE THE GOOD GUYS WITH OUR WILD RIDES,
WE LOVE IT WHEN ... ANTIBIOTICS COME DIRECT,
LET'S US PARTY WILDLY AND UNCHECKED,
WE LOVE IT WHEN ... PROTEIN COMES UNDIGESTED,
CREATES HAVOC WITH THE GOOD GUYS BESTED,
WE LOVE IT WHEN ... YOU WORRY, STRAIN, STEW AND FRET,
GIVES US THE ODDS TO EASILY WIN THE BET.

Thanks for the warning!

With this mucous lining healthy, nutrients pass back and forth readily down here. With harmful microbes working in harmony with the friendly microbes, they perform two important functions. In addition to digesting fiber, they are also synthesizing vitamins—they're helping to nourish Human by producing vitamin K and some B vitamins.

The amount of water you drink is crucial to the action here in the large intestine. While most of the water is absorbed in the small intestine, we need enough to keep the colon working smoothly. Now that Human drinks purified water each day, we're quite happy. There's mineral action happening down here too and we need water for efficient mineral exchange.

We're happy cells with the fruit and vegetables Human gives us as we get moisture as well as minerals. The microbes produce acidic waste products as they munch on the fiber and undigested materials. We need minerals to neutralize some of the acids so it doesn't get overly acidic in here. As long as the lining is healthy, we can readily exchange vitamins and minerals through these walls.

Another system that is working well is the network of tiny veins and lymph vessels within the outer wall of the large intestine—vitamins and minerals pass through to be delivered to the liver. The gut is so important to the nervous system too. The intestinal wall all along the gut, including down here, is wired with nerves that affect how we feel. We and Human feel better since the clean-up.

To check how long it takes from mouth to bowel movement, eat several beets in one meal. See how long it takes for a darker bowel movement that may leak a reddish color into the toilet water.

We've finished climbing. That was easy. We're rounding the curve to head along the transverse colon. Most of the necessary water removal is complete, so we'll start to see the formation of the feces. The body expels toxins along with fiber, bacteria and viruses in the feces. We want to get these toxins out of the body so we don't reabsorb them. A healthy mucous membrane is important all along the way—the mucous protects the cells in the walls of this tube, it binds the dehydrated material to form the feces and it acts as a lubricant to keep the feces moving along.

Human had been constipated for years. In fact, Human didn't realize at least one bowel evacuation a day should be happening. Now Human usually has two evacuations a day. The first one is usually shortly after arising in the morning as that's the most active time for the large intestine. It gets rid of the material that has been moving along during sleep. When Human started eating a lot of fruit and veggies and drinking enough water, we cells sighed with relief—the sludge started to move along down here.

Of course, the liver has to function well to keep the colon working well. We'll visit the liver on another trip. With the putrefactive or disease-causing bacteria and microbes in check, Human doesn't have lots of gas. The gas would rumble and then roar out the anus. Embarrassed Human at times. Even Human tried to get away from the stink.

We're about halfway through the large intestine. On the remainder of the journey, we cells want to let you know the steps Human took to keep this waste moving along ... and what a bowel movement should look like!

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