



NIMBAL
COMICS

DAVID
SUSKIND

JASON
PIPERBERG

NIMBAL COMICS PRESENTS:

DOCTOR LIVEWELL

EXPLORATIONS INTO
FUNCTIONAL ABDOMINAL PAIN
& THE BRAIN GUT AXIS!

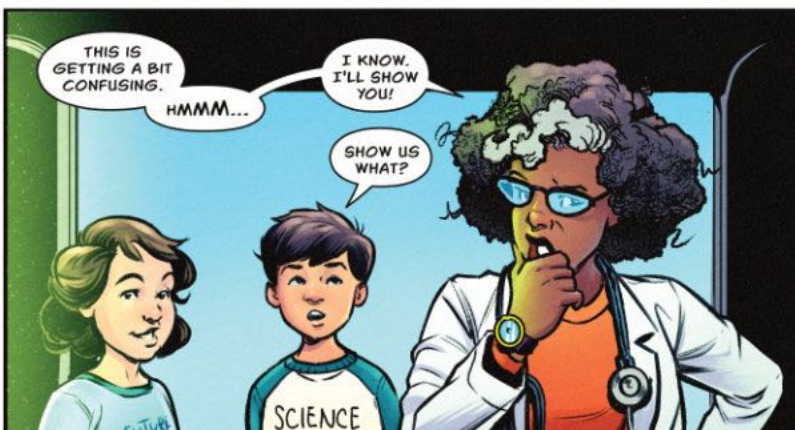
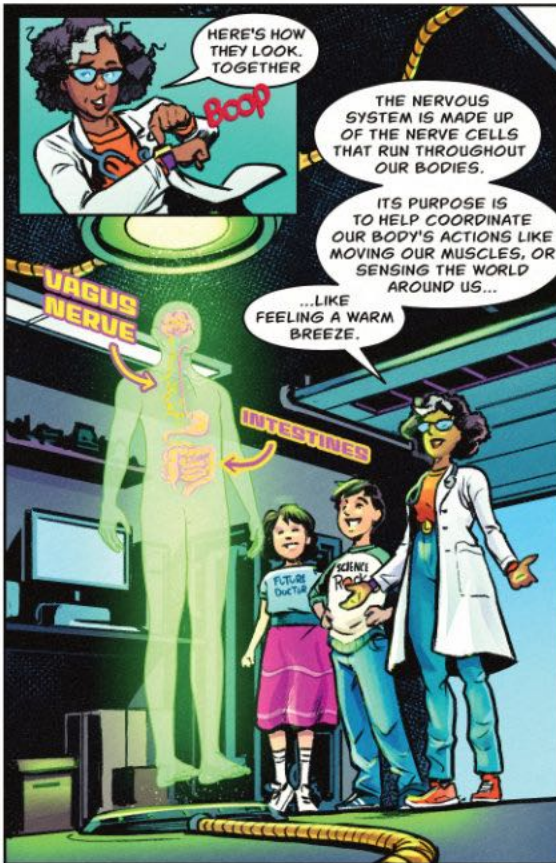
CHOOSING
YOUR OWN PATH
TO HEALTH!













VOILA! TAKE A LOOK! THIS IS MY P.O.O.P.!

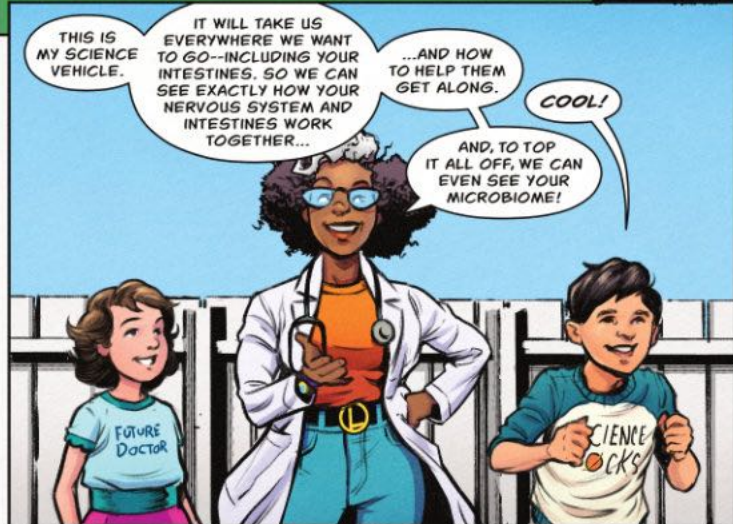
OH, THAT'S GROSS!

NO, NOT MY POOP, THE P.O.O.P. THAT I WAS TELLING YOU ABOUT BEFORE!

MY PEOPLE OPERATED OMNIVERSE PROJECTILE.



UHH, WHAT?



THIS IS MY SCIENCE VEHICLE.

IT WILL TAKE US EVERYWHERE WE WANT TO GO--INCLUDING YOUR INTESTINES. SO WE CAN SEE EXACTLY HOW YOUR NERVOUS SYSTEM AND INTESTINES WORK TOGETHER...

...AND HOW TO HELP THEM GET ALONG.

COOL!

AND, TO TOP IT ALL OFF, WE CAN EVEN SEE YOUR MICROBIOME!

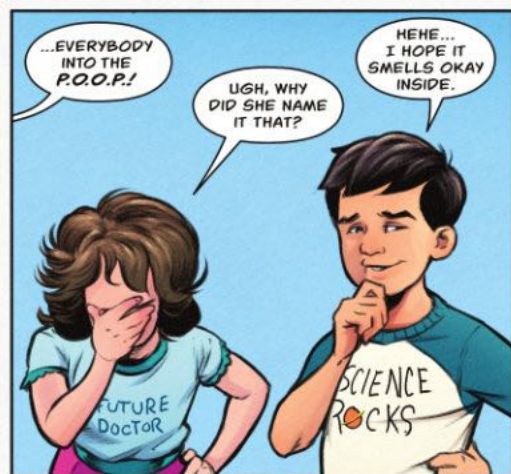


MICROBIOME? DOCTOR LIVWELL, ARE YOU MAKING UP WORDS?

NO! NOT MAKING UP WORDS!

A PERSON'S MICROBIOME IS ANOTHER REASON WHY FAP CAN OCCUR.

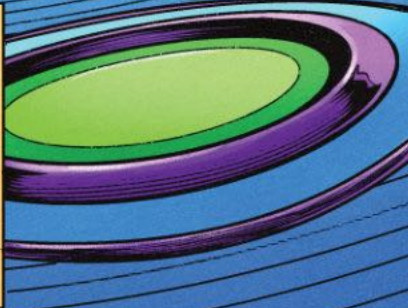
LET ME SHOW YOU...



...EVERYBODY INTO THE P.O.O.P.!

UGH, WHY DID SHE NAME IT THAT?

HEHE... I HOPE IT SMELLS OKAY INSIDE.





SEE ALL THOSE BACTERIA?
THOSE BACTERIA MAKE UP YOUR MICROBIOME!
WE HAVEN'T SEEN THE LAST OF THEM...
HOLD ON!



BEFORE WE TALK ABOUT THE MICROBIOME, THERE'S SOMETHING ELSE I WANT TO SHOW YOU...

...SOMETHING VERY IMPORTANT. THE INTESTINAL NERVOUS SYSTEM.

THIS IS HOW THE INTESTINES AND BRAIN COMMUNICATE.



THE INTESTINAL NERVOUS SYSTEM IS ESSENTIAL FOR THE MOVEMENT OF THE **GASTROINTESTINAL TRACT** AS WELL AS THE DIGESTION OF FOOD. IT IS A NETWORK OF NERVES THAT RUNS THROUGH THE INTESTINES.

IT CONTAINS OVER **500 MILLION** NERVES! IT IS SO LARGE AND SO IMPORTANT THAT IT'S CONSIDERED OUR "**SECOND BRAIN**."

INTESTINES

click



IT EVEN COMMUNICATES IN THE EXACT SAME WAY THAT NERVES IN THE BRAIN COMMUNICATE, VIA **NEUROTRANSMITTERS**.

NEUROTRANSMITTERS ARE CHEMICAL SPARKS LIKE SEROTONIN THAT ARE ESSENTIAL FOR INTESTINAL COMMUNICATION.



AND-- ANOTHER INTERESTING FACT...

...MORE THAN 90% OF THE BODY'S SEROTONIN IS IN THE GUT!

THAT'S A LOT OF CHEMICAL SPARKS!



IT IS!

THE INTESTINAL NERVOUS SYSTEM IS IN CONSTANT COMMUNICATION WITH THE BRAIN VIA A SPECIAL NERVE CALLED THE **VAGUS NERVE**.

THE VAGUS NERVE? THAT IS AN ODD NAME.

THE BRAIN

INTESTINAL NERVOUS SYSTEM



NOT IF YOU KNOW WHAT VAGUS MEANS!

IN LATIN, VAGUS MEANS "**WANDERING**"... WHICH IS EXACTLY WHAT THIS NERVE DOES. THE VAGUS NERVE IS THE LONGEST NERVE IN THE BODY, IT LITERALLY "**WANDERS**" THROUGHOUT OUR BODIES.

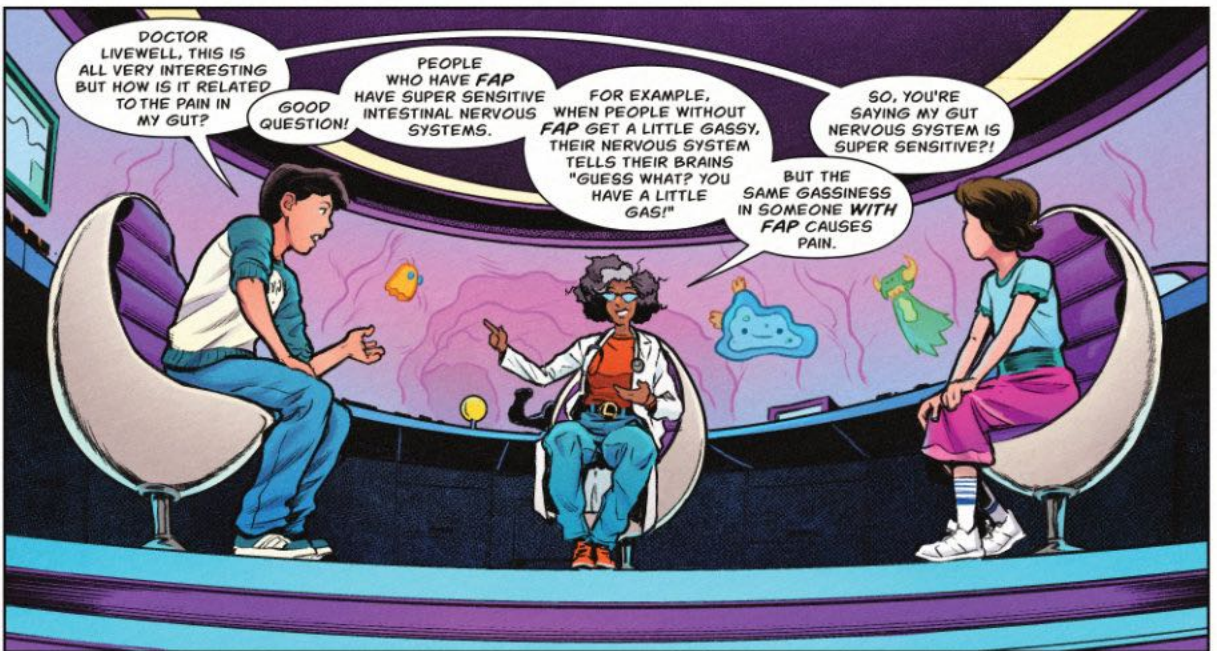
AS IT "**WANDERS**", IT'S DOING AMAZING THINGS, INCLUDING HELPING WITH OUR DIGESTION.

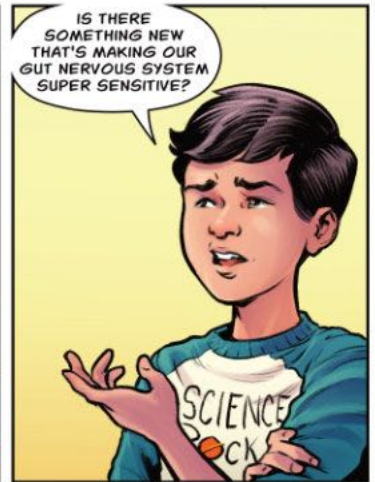
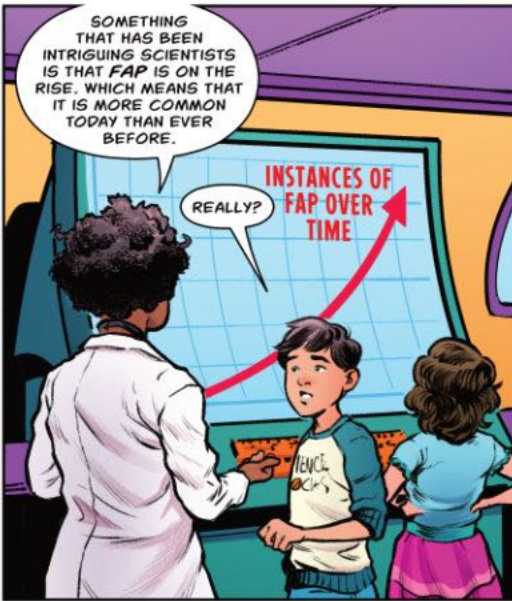
VAGUS NERVE

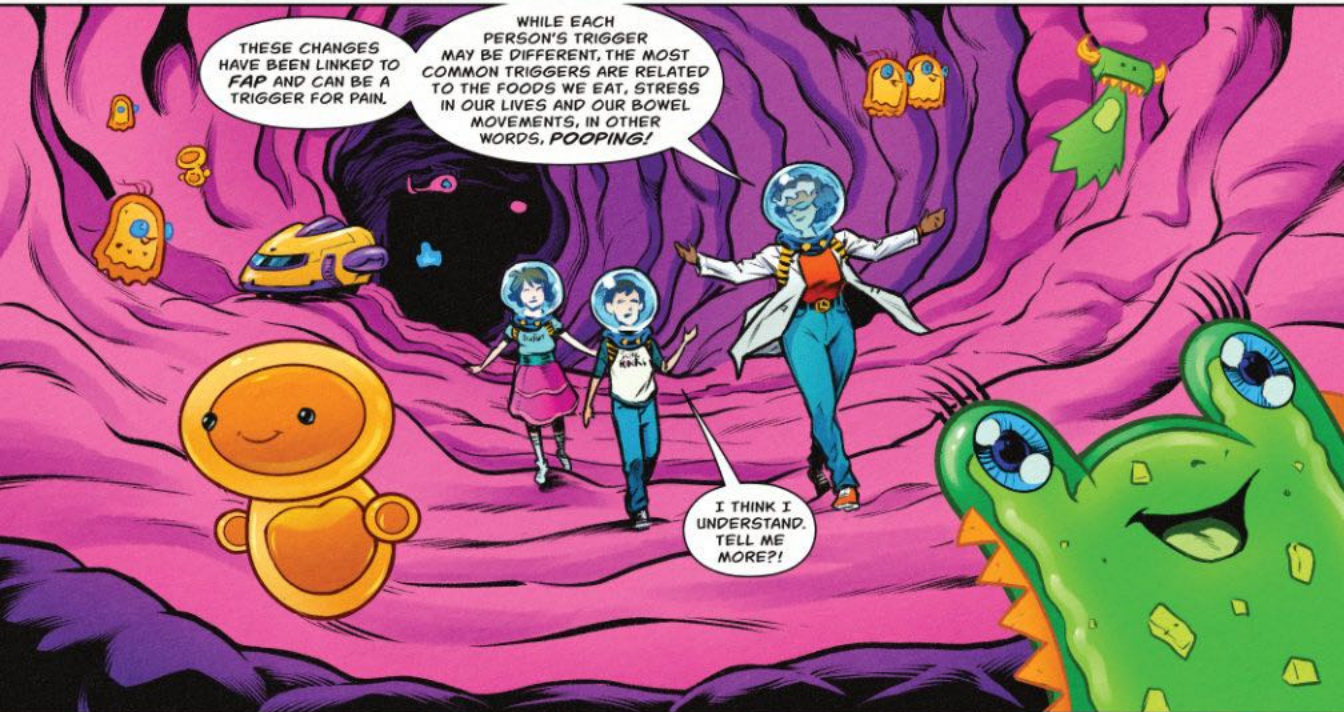
INTESTINES



BUT WHEN WE ARE EXCITED, STRESSED OR NERVOUS, IT IS ALSO THE REASON WE GET "**BUTTERFLIES**" IN OUR STOMACH OR FEEL QUEASY.







CHOOSE YOUR OWN PATH!

IF YOU'RE INTERESTED IN LEARNING MORE ABOUT WHAT YOU'RE EATING AND HOW IT AFFECTS YOUR MICROBIOME AND FAP GO TO **PAGE 12**.



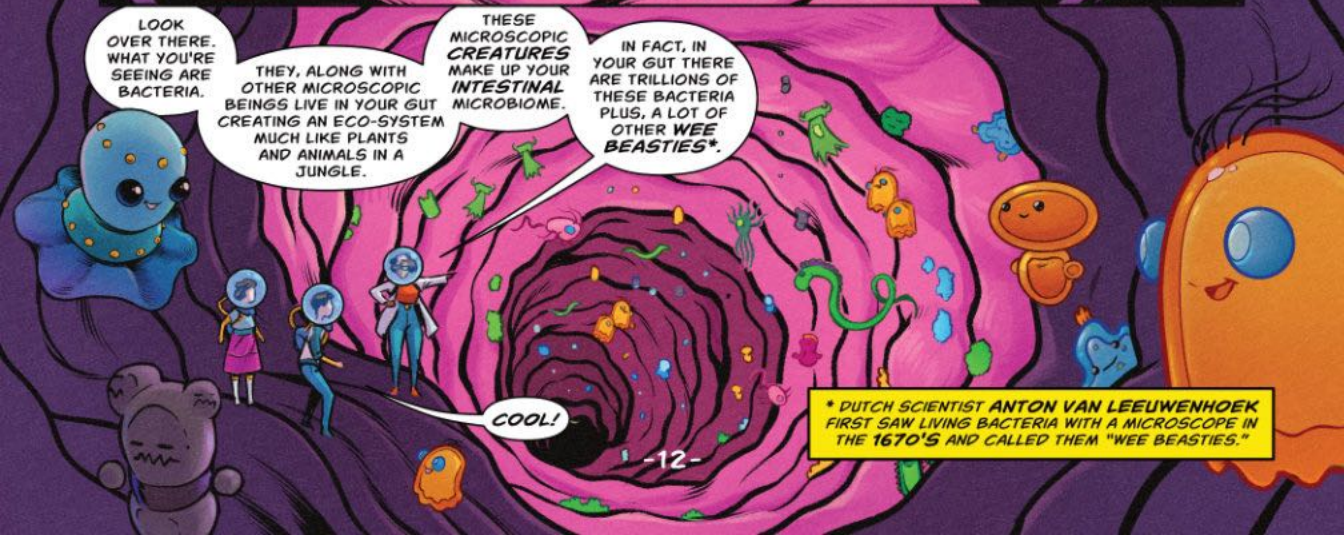
OR...IF WHAT YOU REALLY WANT TO KNOW ABOUT IS, WELL, TO PUT IT IN THE LEAST OFFENSIVE WAY, **POOPING** AND FAP GO STRAIGHT TO **PAGE 16**.



OR IF YOU'RE ADVENTUROUS AND WANT TO LEARN HOW STRESS AND EMOTIONS AFFECT FAP GO TO **PAGE 19**.

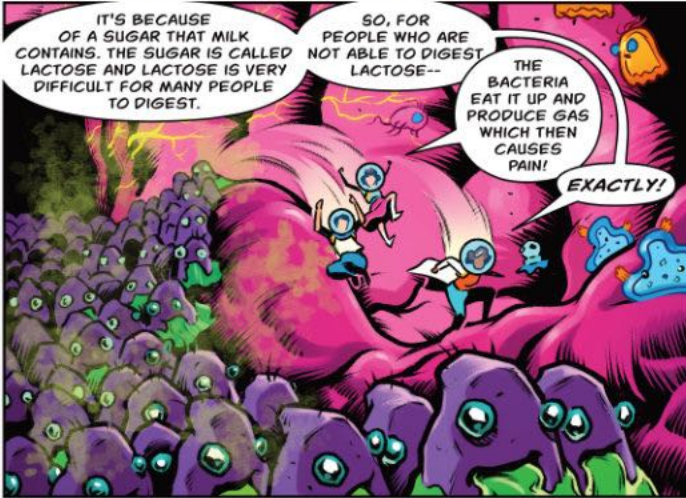


FOOD/MICROBIOME & FAP



* DUTCH SCIENTIST ANTON VAN LEEUWENHOEK FIRST SAW LIVING BACTERIA WITH A MICROSCOPE IN THE 1670'S AND CALLED THEM "WEE BEASTIES."





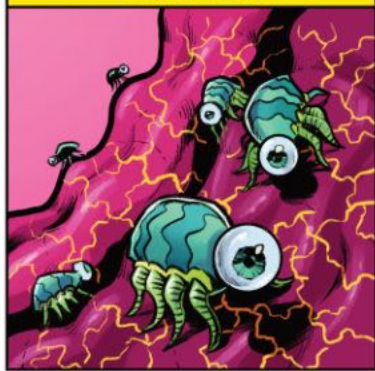


CHOOSE YOUR OWN PATH!

IF WHAT YOU REALLY WANT TO KNOW ABOUT IS, WELL, TO PUT IT IN THE LEAST OFFENSIVE WAY, POOPING AND FAP GO STRAIGHT TO PAGE 16.



OR IF YOU'RE ADVENTUROUS AND WANT TO LEARN HOW STRESS AND EMOTION AFFECT FAP GO TO PAGE 19.



OR IF YOU ARE READY TO GET OUT OF HERE...GO TO PAGE 24.



POOPING & FAP



THE GUT IS AMAZING!

YOU NEVER KNOW WHAT YOU'LL FIND AROUND THE CORNER!

SO TRUE!

DOCTOR LIVEWELL, I DON'T UNDERSTAND HOW POOP IS RELATED TO MY PAIN.

AH! YOU SEE, HAVING TOO MUCH POOP IN THE INTESTINES IS ONE OF THE MOST COMMON CAUSES OF ABDOMINAL PAIN.



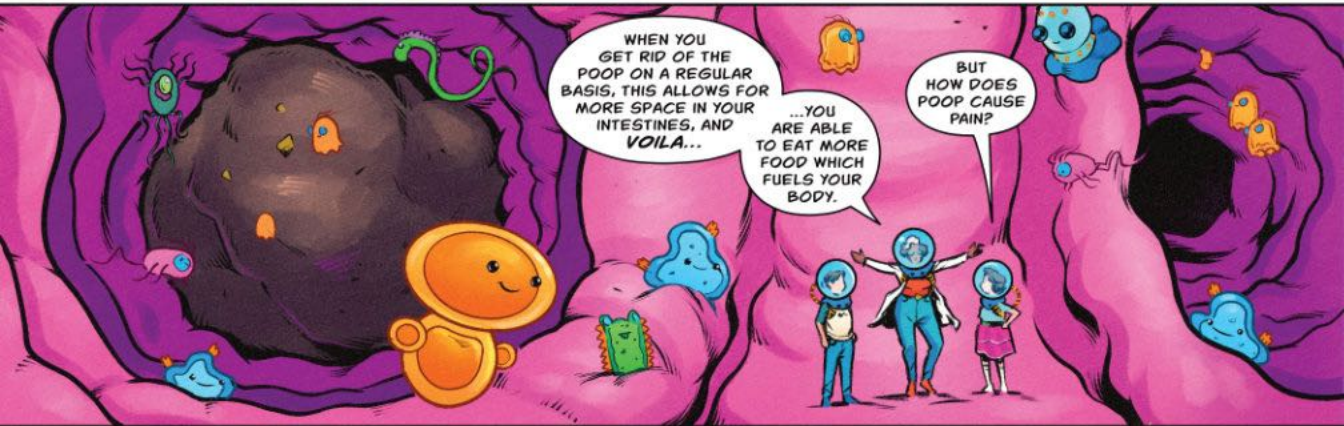
WHICH IS WHY HAVING NICE SOFT BOWEL MOVEMENTS EVERY DAY IS SO IMPORTANT.



WHEN YOU GET RID OF THE POOP ON A REGULAR BASIS, THIS ALLOWS FOR MORE SPACE IN YOUR INTESTINES, AND VOILA...

...YOU ARE ABLE TO EAT MORE FOOD WHICH FUELS YOUR BODY.

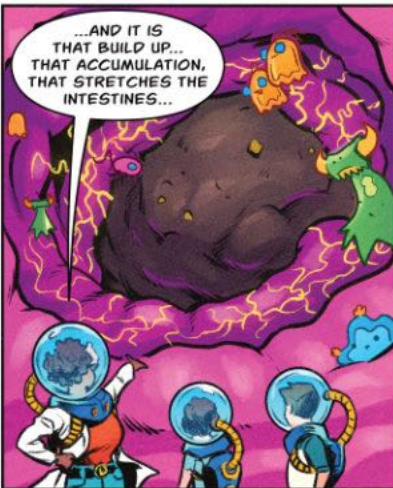
BUT HOW DOES POOP CAUSE PAIN?



IF THE POOP DOESN'T LEAVE, IT BUILDS UP INSIDE YOUR INTESTINES...

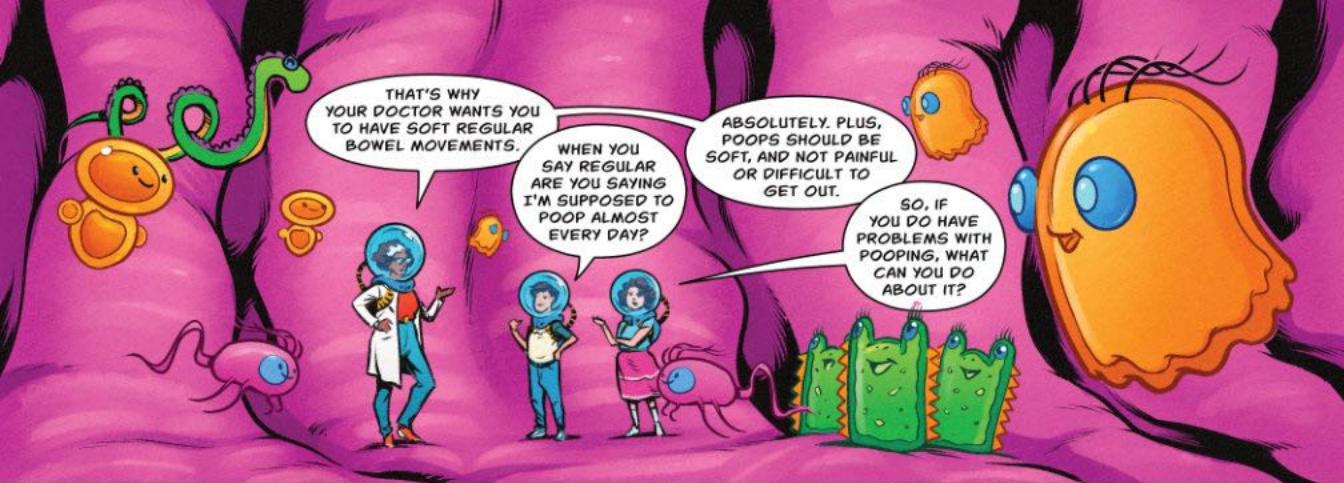


...AND IT IS THAT BUILD UP... THAT ACCUMULATION, THAT STRETCHES THE INTESTINES...



...WHICH ACTIVATES THE INTESTINAL NERVOUS SYSTEM RESULTING IN SPASMS AND PAIN.





THAT'S WHY YOUR DOCTOR WANTS YOU TO HAVE SOFT REGULAR BOWEL MOVEMENTS.

WHEN YOU SAY REGULAR ARE YOU SAYING I'M SUPPOSED TO POOP ALMOST EVERY DAY?

ABSOLUTELY. PLUS, POOPS SHOULD BE SOFT, AND NOT PAINFUL OR DIFFICULT TO GET OUT.

SO, IF YOU DO HAVE PROBLEMS WITH POOPING, WHAT CAN YOU DO ABOUT IT?

AH! THERE ARE MANY THINGS WE CAN DO.

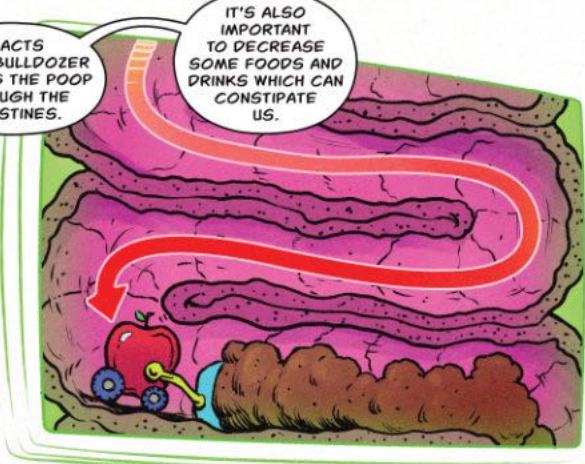
THE FOODS WE EAT PLAY AN **IMPORTANT** ROLE IN HOW WELL WE POOP!

INCREASING THE AMOUNT OF VEGETABLES AND FRUITS IN YOUR DIET INCREASES YOUR FIBER INTAKE.

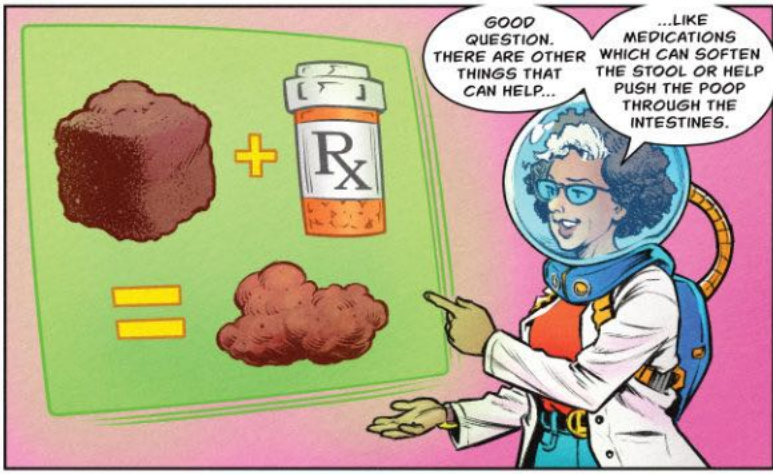
AND FIBER IS AN **IMPORTANT** POOPING TOOL!

IT ACTS LIKE A BULLDOZER PUSHING THE POOP THROUGH THE INTESTINES.

IT'S ALSO IMPORTANT TO DECREASE SOME FOODS AND DRINKS WHICH CAN CONSTIPATE US.



WHAT IF CHANGING THE FOODS YOU EAT DOESN'T WORK?



GOOD QUESTION. THERE ARE OTHER THINGS THAT CAN HELP...

...LIKE MEDICATIONS WHICH CAN SOFTEN THE STOOL OR HELP PUSH THE POOP THROUGH THE INTESTINES.



MANY PEOPLE ALSO SET UP A DAILY ROUTINE TO USE THE BATHROOM.

THIS TRAINS THE BODY TO POOP. SITTING ON THE TOILET TWICE A DAY EVEN WHEN YOU DON'T NEED TO POOP CAN BE EXTREMELY HELPFUL.

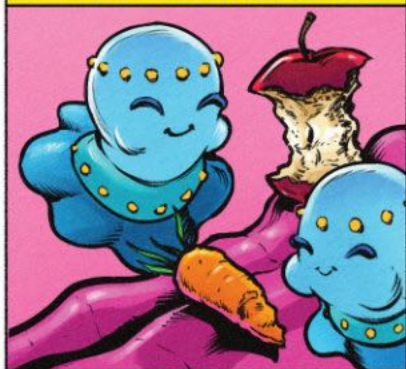
REMEMBER, PRACTICE MAKES PERFECT!

UGH!!!

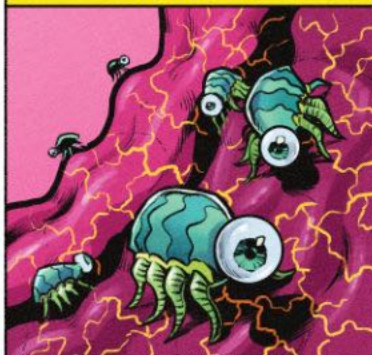


CHOOSE YOUR OWN PATH!

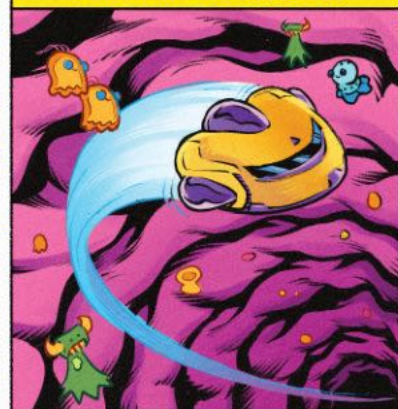
IF YOU'RE INTERESTED IN LEARNING MORE ABOUT WHAT YOU'RE EATING AND HOW IT AFFECTS YOUR MICROBIOME AND FAP GO TO PAGE 12.



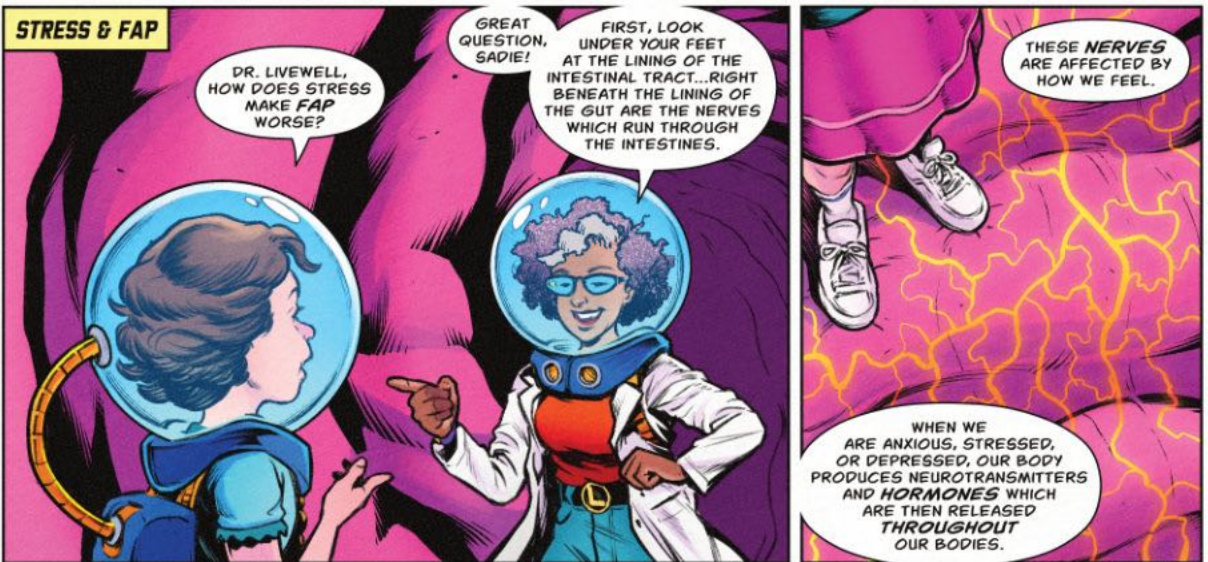
OR IF YOU'RE ADVENTUROUS AND WANT TO LEARN HOW STRESS AND HOW YOU FEEL AFFECTS FAP GO TO PAGE 19.



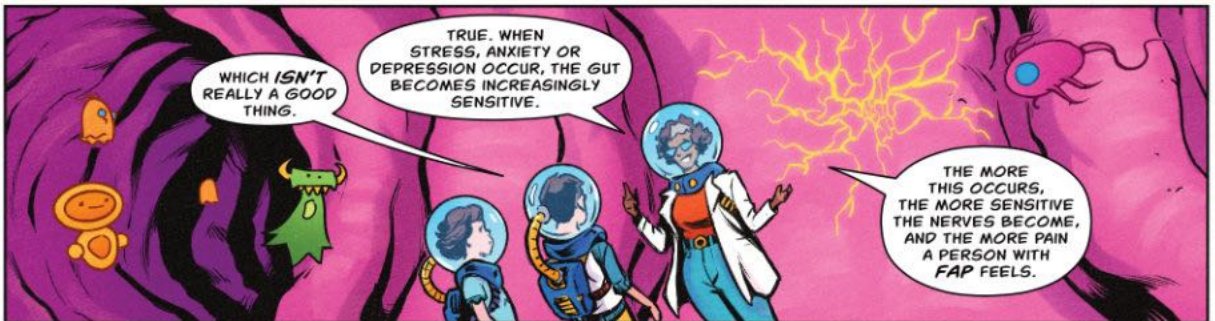
OR IF YOU ARE READY TO GET OUT OF HERE...GO TO PAGE 24.



STRESS & FAP



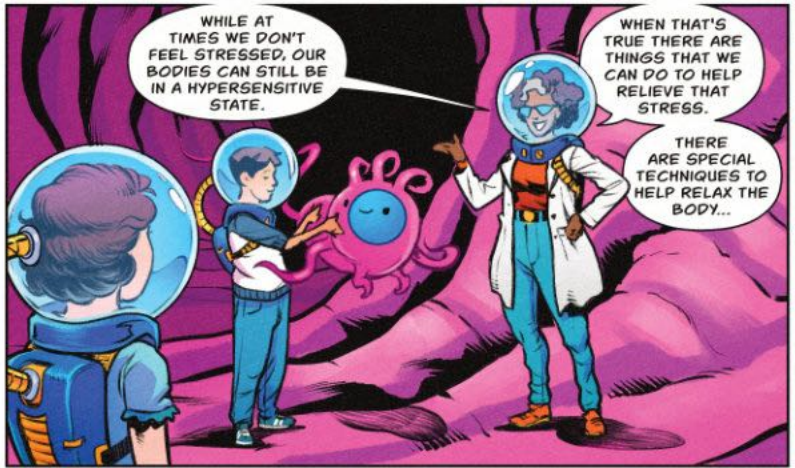
POKE







DOCTOR
LIVWELL, THE
TRUTH IS, I REALLY
DON'T FEEL
STRESSED.



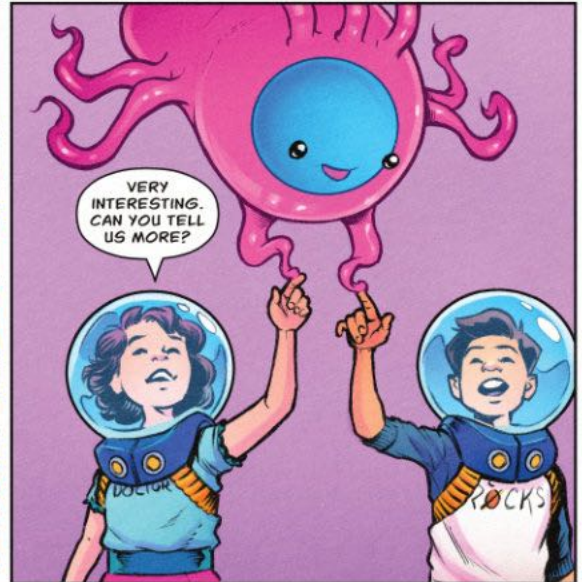
WHILE AT
TIMES WE DON'T
FEEL STRESSED, OUR
BODIES CAN STILL BE
IN A HYPERSENSITIVE
STATE.

WHEN THAT'S
TRUE THERE ARE
THINGS THAT WE
CAN DO TO HELP
RELIEVE THAT
STRESS.

THERE
ARE SPECIAL
TECHNIQUES TO
HELP RELAX THE
BODY...



...INCLUDING
COGNITIVE BEHAVIOR
THERAPY OR *CBT* AND
BIOFEEDBACK.



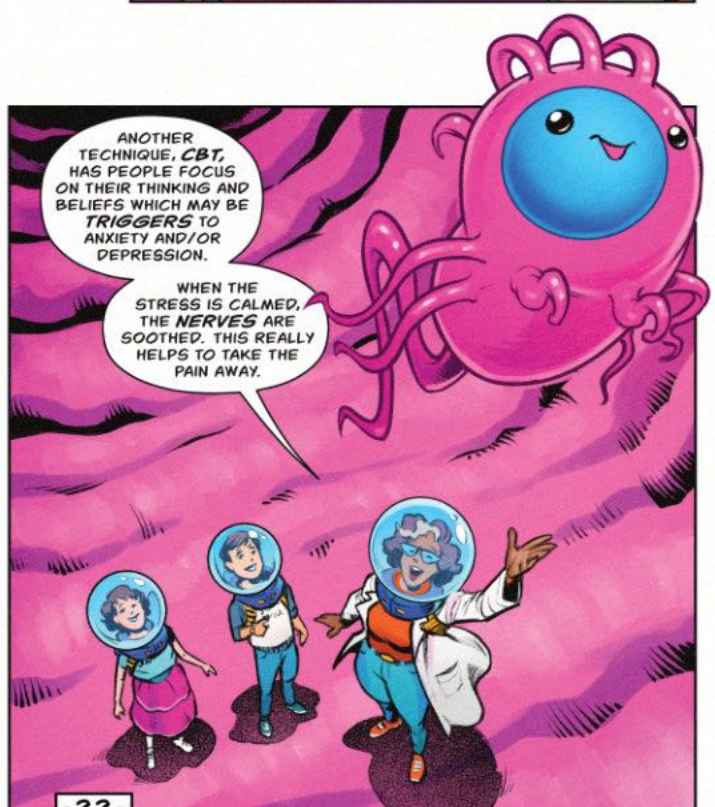
VERY
INTERESTING.
CAN YOU TELL
US MORE?



OF
COURSE!

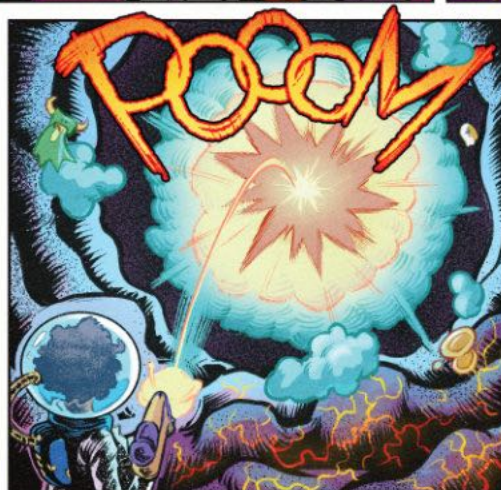
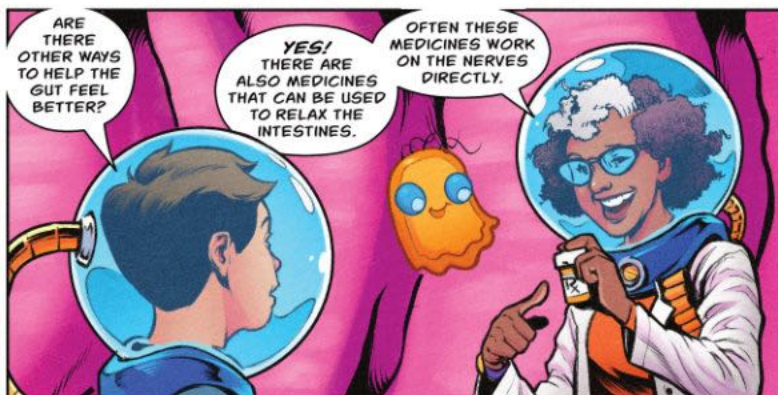
BIOFEEDBACK
IS A TECHNIQUE
WHERE PEOPLE TEACH
THEMSELVES HOW TO RELAX
BY USING RELAXATION
TECHNIQUES.

SUCCESS
WITH RELAXATION
IS MONITORED BY
MEASURING MARKERS
OF HYPERSENSITIVITY
INCLUDING, FOR
EXAMPLE, HEART
RATE.



ANOTHER
TECHNIQUE, *CBT*,
HAS PEOPLE FOCUS
ON THEIR THINKING AND
BELIEFS WHICH MAY BE
TRIGGERS TO
ANXIETY AND/OR
DEPRESSION.

WHEN THE
STRESS IS CALMED,
THE *NERVES* ARE
SOOTHED. THIS REALLY
HELPS TO TAKE THE
PAIN AWAY.



CHOOSE YOUR OWN PATH!

IF YOU'RE INTERESTED IN LEARNING MORE ABOUT WHAT YOU'RE EATING AND HOW IT AFFECTS YOUR MICROBIOME AND FAP GO TO PAGE 12.



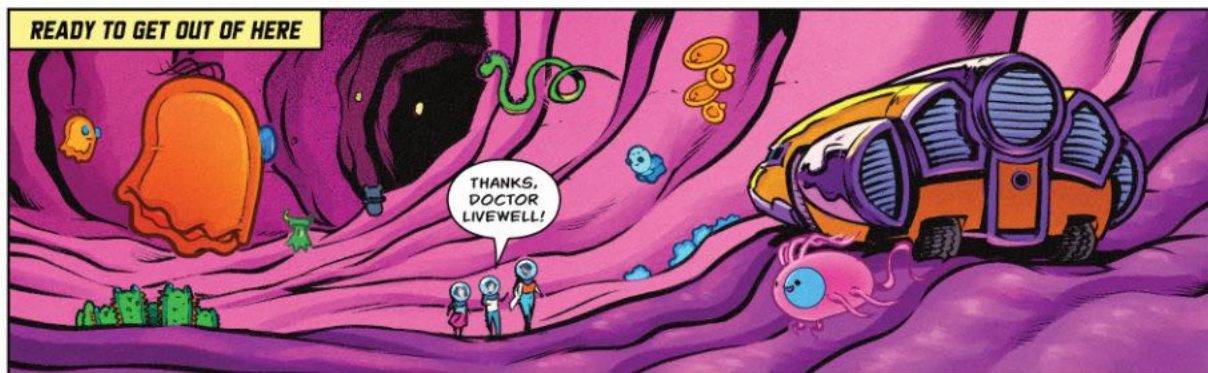
OR...IF WHAT YOU REALLY WANT TO KNOW ABOUT IS, WELL, TO PUT IT IN THE LEAST SMELLY WAY, POOPING AND FAP GO STRAIGHT TO PAGE 16.



OR IF YOU ARE READY TO GET OUT OF HERE...GO TO PAGE 24.

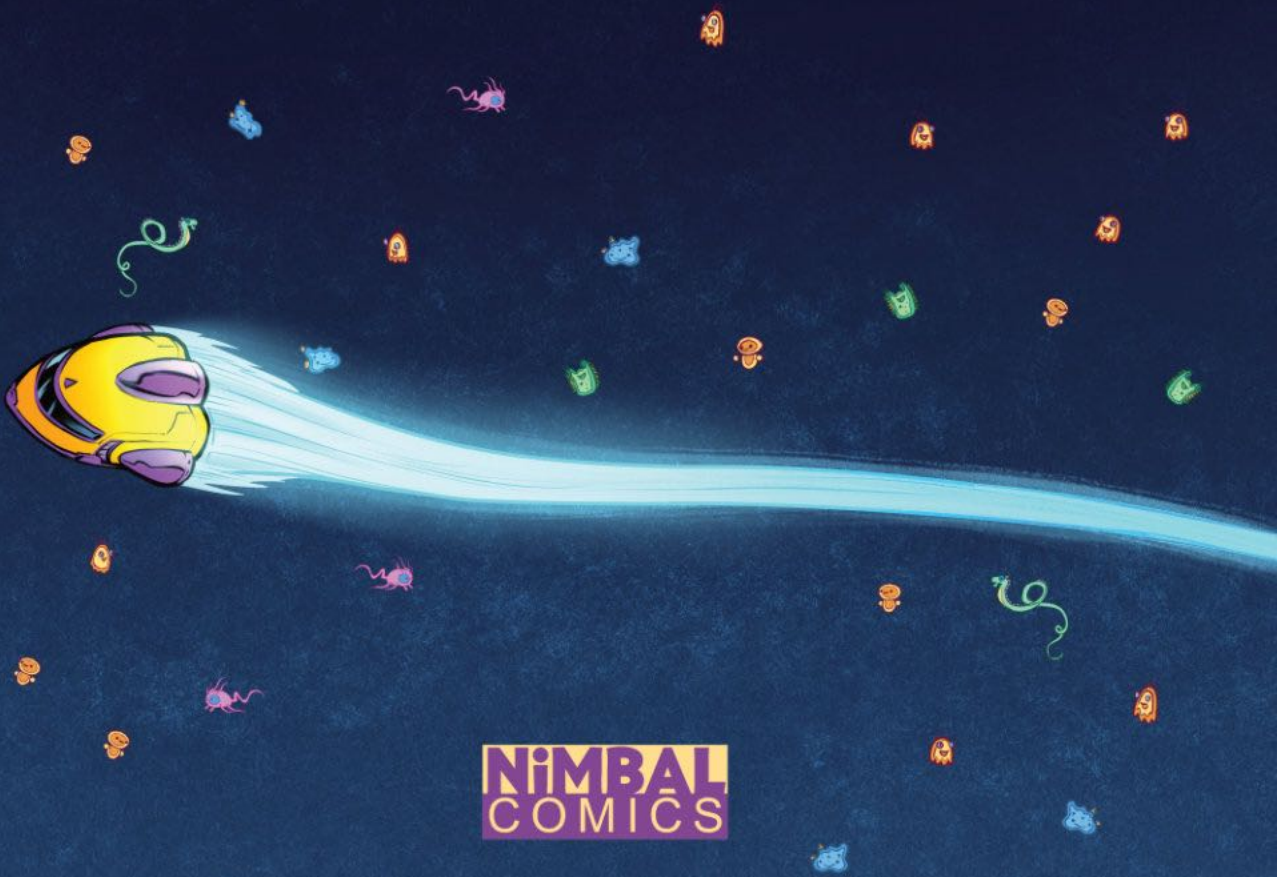


READY TO GET OUT OF HERE



TO LEARN MORE ABOUT YOUR FAP, HAVE A NICE LONG TALK WITH YOUR GASTROENTEROLOGIST--YOUR GUT DOCTOR--YOUR VERY OWN DOCTOR LIVEWELL!





NIMBAL
COMICS