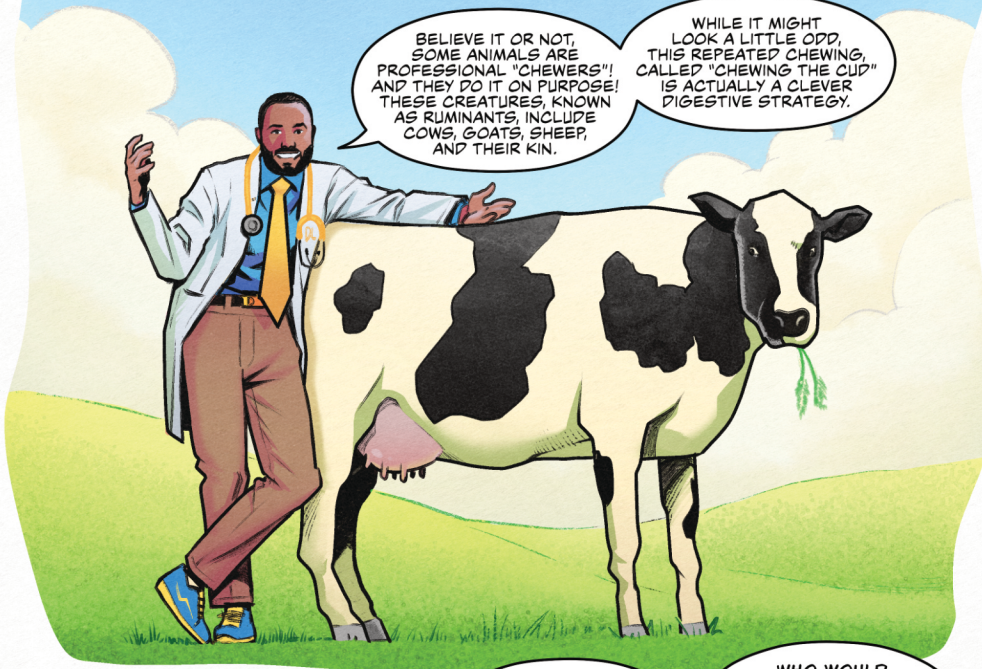


# RUMINATION FACTOIDS

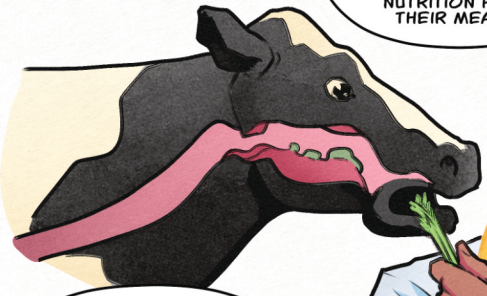


BELIEVE IT OR NOT, SOME ANIMALS ARE PROFESSIONAL "CHEWERS"! AND THEY DO IT ON PURPOSE! THESE CREATURES, KNOWN AS RUMINANTS, INCLUDE COWS, GOATS, SHEEP, AND THEIR KIN.

WHILE IT MIGHT LOOK A LITTLE ODD, THIS REPEATED CHEWING, CALLED "CHEWING THE CUD" IS ACTUALLY A CLEVER DIGESTIVE STRATEGY.

BY BRINGING UP PARTIALLY DIGESTED FOOD AND CHEWING IT AGAIN, THESE ANIMALS BREAK IT DOWN MORE THOROUGHLY, UNLOCKING EVERY LAST BIT OF NUTRITION FROM THEIR MEALS.

WHO WOULD HAVE GUESSED THAT CHEWING COULD BE SUCH A SUPERPOWER FOR GETTING THE MOST OUT OF YOUR FOOD? FOR RUMINANTS, IT'S NOT JUST A HABIT, IT'S A SURVIVAL TACTIC.



HUMANS, THOUGH, SHOULD LEAVE THE CUD TO THE COWS. THIS IS NOT SOMETHING WE NEED (OR SHOULD) TRY AT HOME! STILL, IT GOES TO SHOW HOW POWERFUL CHEWING REALLY IS. THE MORE YOU CHEW, THE BETTER YOUR BODY CAN USE THE FOOD YOU EAT!



# LIVWELL COMICS PRESENTS: DOCTOR LIVWELL

## THE FOOD LOOP: Understanding & Treating RUMINATION SYNDROME



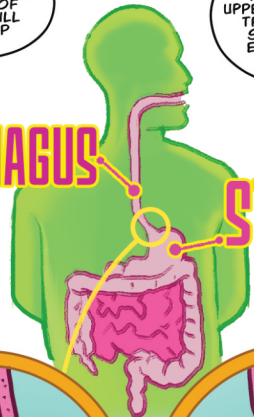
SO YOU HAVE RUMINATION! LET'S TALK ABOUT IT!

FIRST, KNOW YOU ARE GOING TO BE OKAY. AND WITH A LITTLE BIT OF WORK, YOU WILL BE IN TIP TOP SHAPE!

WHAT IS RUMINATION?

RUMINATION IS A COMMON PROBLEM THAT AFFECTS THE UPPER GASTROINTESTINAL TRACT. THAT IS, THE STOMACH AND THE ESOPHAGUS, YOUR SWALLOWING TUBE.

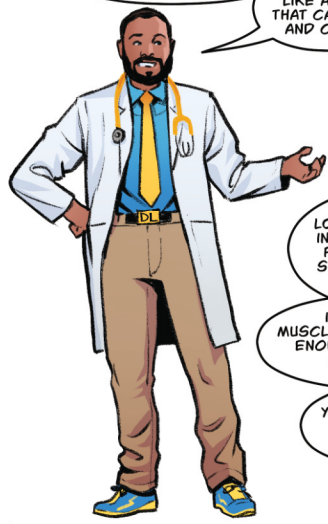
ESOPHAGUS STOMACH



MANY PEOPLE EXPERIENCE RUMINATION. SCIENTISTS DON'T YET KNOW WHY IT OCCURS, BUT THEY THINK THAT AN INFECTION-- OR OTHER STRESSORS-- TRIGGER THE STOMACH TO HAVE AN ABNORMAL REFLEX\* WITH THE ABDOMINAL WALL MUSCLES CONTRACTING CAUSING INCREASE PRESSURE IN THE STOMACH!

AT THE SAME TIME, A SMALL RING OF MUSCLE AT THE BOTTOM OF THE ESOPHAGUS, CALLED A SPHINCTER, ABNORMALLY RELAXES.

THINK OF IT LIKE A VALVE THAT CAN OPEN AND CLOSE.



WHEN THE SPHINCTER LOOSENS, THE PRESSURE IN THE STOMACH CAUSES FOOD OR LIQUID IN THE STOMACH TO FLOW BACK UP THE ESOPHAGUS.

IF THE ABDOMINAL MUSCLES SQUEEZE STRONGLY ENOUGH, FOOD OR LIQUID MAY EVEN REACH THE MOUTH.

BUT DON'T WORRY! YOU CAN RETRAIN YOUR ABDOMINAL WALL MUSCLES TO RELAX AND MAKE ROOM FOR YOUR STOMACH TO EXPAND!



\* A REFLEX IS AN AUTOMATIC, FAST RESPONSE THAT YOUR BODY MAKES WITHOUT YOU HAVING TO THINK ABOUT IT. IT HAPPENS BECAUSE YOUR NERVES AND MUSCLES REACT INSTANTLY TO CERTAIN SIGNALS.

CLASSIC RUMINATION USUALLY SHOWS UP RIGHT AFTER EATING, SOMETIMES JUST A MINUTE OR TWO LATER, THE CHEWED-UP FOOD COMES BACK UP INTO THE SWALLOWING TUBE (THE ESOPHAGUS) OR EVEN ALL THE WAY INTO THE MOUTH. WITH RUMINATION, UNLIKE WITH VOMITING, THE FOOD DOES NOT COME OUT IN A FORCEFUL WAY. FOR SOME PEOPLE THIS HAPPENS ONLY ONCE, WHILE FOR OTHERS IT CAN OCCUR SEVERAL TIMES IN A ROW. SOME TEENS WILL SIMPLY SWALLOW THE FOOD BACK DOWN, WHILE OTHERS MIGHT SPIT IT OUT. EITHER WAY, IT CAN FEEL FRUSTRATING AND UNCOMFORTABLE, EVEN THOUGH IT'S NOT DANGEROUS.



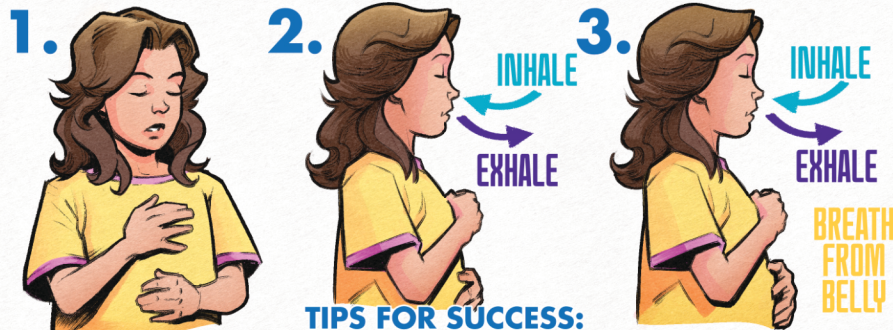
# HOW DO YOU TEACH YOUR BELLY MUSCLES TO RELAX?



MUCH LIKE AN ATHLETE OR SOMEONE LEARNING SOMETHING NEW, IT REQUIRES TRAINING. YOU CAN TRAIN YOUR BELLY MUSCLES TO RELAX. WHEN THEY'RE RELAXED, THERE'S LESS PRESSURE IN YOUR STOMACH, WHICH HELPS KEEP FOOD FROM COMING BACK UP. THE BEST WAY IS THROUGH **DIAPHRAGMATIC BREATHING**. IT MIGHT SOUND STRANGE BUT IS A WELL-KNOWN PRACTICE -- ONE THAT'S BEEN AROUND FOR THOUSANDS OF YEARS! IN FACT, IT IS STILL COMMONLY USED TODAY BY SINGERS AND BY PEOPLE WHO PRACTICE YOGA.

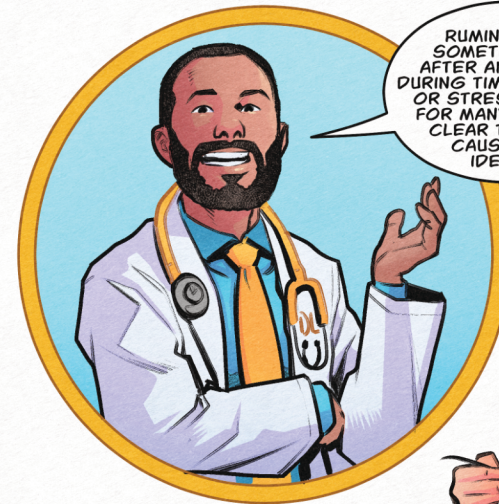
## HOW TO PRACTICE DIAPHRAGMATIC (BELLY) BREATHING

1. PLACE ONE HAND ON YOUR CHEST AND THE OTHER ON YOUR BELLY.
2. TAKE A DEEP BREATH IN. NOTICE WHICH HAND MOVES. FOR MANY PEOPLE, THE CHEST RISES FIRST. TRY THIS A COUPLE OF TIMES.
3. NOW TRY DIAPHRAGMATIC BREATHING: WHEN YOU BREATHE IN, LET YOUR BELLY EXPAND. YOUR STOMACH SHOULD PUSH OUT ON THE INHALE AND FLATTEN ON THE EXHALE. IT MAY FEEL STRANGE AT FIRST, BUT WITH PRACTICE IT GETS EASIER!



### TIPS FOR SUCCESS:

- START BY PRACTICING WHILE LYING DOWN, THEN MOVE TO SITTING.
- TRY TO BREATHE IN FOR ABOUT 4 SECONDS AND BREATHE OUT SLOWLY FOR ABOUT 8 SECONDS.
- REMEMBER, TRAINING TAKES EFFORT AND REPETITION. NO ATHLETE JUMPS STRAIGHT INTO A GAME AND EXPECTS TO DO THEIR BEST. BECOMING GOOD AT SOMETHING TAKES TIME. YOUR BODY NEEDS THIS TIME TO RE-LEARN -- NOT TO RUMINATE!
- TRY DIAPHRAGMATIC BREATHING 5 MINUTES BEFORE EATING, AS WELL AS 5 MINUTES AFTER AND AT LEAST 3 TIMES THROUGHOUT THE DAY. SOMETIMES YOU CAN TELL WHEN FOOD OR DRINK IS ABOUT TO COME BACK UP. IT MIGHT FEEL LIKE PRESSURE, DISCOMFORT, OR LIKE YOU NEED TO BURP. THAT'S YOUR SIGNAL--IT'S TIME TO TRY DIAPHRAGMATIC BREATHING!
- BEHAVIORAL TREATMENT CAN ALSO INVOLVE LEARNING HELPFUL SKILLS, LIKE NOTICING WHEN RUMINATION HAPPENS, RE-SWALLOWING FOOD, AND PRACTICING DIFFERENT CHEWING AND SWALLOWING TECHNIQUES LIKE TAKING SMALLER BITES AND CHEWING MORE SLOWLY.
- IN ADDITION TO BEHAVIORAL STRATEGIES, YOUR TREATMENT PLAN MAY INCLUDE MEDICATIONS OR DIETARY CHANGES TO MANAGE OTHER DIGESTIVE ISSUES, LIKE CONSTIPATION, REFLUX, OR OTHER SYMPTOMS.



RUMINATION CAN SOMETIMES BEGIN AFTER AN ILLNESS OR DURING TIMES OF CHANGE OR STRESS. HOWEVER, FOR MANY PEOPLE, NO CLEAR TRIGGER OR CAUSE CAN BE IDENTIFIED.

REMEMBER, IT'S NOT YOUR FAULT -- IT'S A REFLEX YOU CAN LEARN TO MANAGE.

BIG BITES AND RUSHING MEALS CAN MAKE IT WORSE -- SO SLOW DOWN!



DEEP BELLY BREATHING CAN STOP IT IN ITS TRACKS.



SMART HABITS LIKE NOTICING TRIGGERS AND CHEWING CAREFULLY CAN REALLY HELP.



## UNDERSTANDING THE DIFFERENCE BETWEEN RUMINATION AND VOMITING

IT'S IMPORTANT TO KNOW THAT RUMINATION ISN'T THE SAME THING AS VOMITING OR HAVING REFLUX. WITH RUMINATION THERE'S NO DIFFICULTY WITH SWALLOWING. WITH RUMINATION, THERE IS NO QUEASY STOMACH, GAGGING, OR SOUR TASTE LIKE YOU MIGHT GET WITH VOMITING OR ACID REFLUX. MOST PEOPLE DON'T HAVE ANY PAIN WITH IT, AND IT USUALLY DOESN'T CAUSE PROBLEMS WITH GROWTH, WEIGHT, OR NUTRITION. ANOTHER CLUE THAT IT'S RUMINATION IS THAT YOU CAN DECIDE IF YOU ARE GOING TO SWALLOW THE FOOD BACK OR SPIT IT OUT, UNLIKE VOMITING. IF YOU ARE HAVING DIFFICULTY SWALLOWING, PAIN, WEIGHT LOSS, OR OTHER CONCERNING SYMPTOMS, CONTACT YOUR DOC!

