

LIVEWELL COMICS PRESENTS:

DOCTOR LIVEWELL

THE STORM INSIDE:

Understanding & Treating CYCLIC VOMITING SYNDROME (CVS)

SO YOU HAVE CYCLIC VOMITING SYNDROME. LET'S TALK ABOUT IT!

THE FIRST THING TO KNOW IS THAT YOU ARE GOING TO BE OKAY! AND, AFTER YOU LEARN HOW TO MANAGE THIS, YOU'LL FEEL MUCH BETTER!

WHAT IS CYCLIC VOMITING SYNDROME?

CYCLIC VOMITING SYNDROME IS A CONDITION WHERE A PERSON HAS SUDDEN EPISODES OF INTENSE NAUSEA AND VOMITING AND THEN FEELS COMPLETELY NORMAL BETWEEN EPISODES.

DOCTORS AREN'T EXACTLY SURE WHY IT HAPPENS, BUT THEY BELIEVE IT'S RELATED TO HOW YOUR BRAIN, GUT, AND NERVOUS SYSTEM* COMMUNICATE.

USUALLY, OUR BRAIN USES THE NERVOUS SYSTEM TO TELL OUR GUT TO VOMIT WHEN SOMETHING IS WRONG, LIKE A STOMACH INFECTION OR FOOD POISONING.

IN CVS, THERE IS A "GLITCH" IN THE COMMUNICATION BETWEEN THE STOMACH AND THE BRAIN. IT IS KIND OF LIKE A FIRE ALARM THAT GOES OFF, EVEN THOUGH THERE'S NO SMOKE OR FIRE.

THE RESULT? THE STOMACH'S "CONTROL CENTER" KICKS INTO EMERGENCY MODE, SENDING STRONG SIGNALS THAT TRIGGER WAVES OF NAUSEA AND VOMITING EVEN THOUGH THE BODY IS SAFE.

EPISODES CAN SOMETIMES LAST FOR HOURS OR EVEN DAYS AND THEN GO AWAY COMPLETELY. DURING EPISODES, IT MAY BE DIFFICULT TO GO TO SCHOOL OR HANG OUT WITH FRIENDS.

CVS IS OFTEN TRIGGERED BY STRESS, LACK OF SLEEP, EXCITEMENT, ILLNESS, NOT EATING, HORMONE CHANGES, TRAVEL, OR MOTION SICKNESS.

HOW CVS USUALLY SHOWS UP

CYCLIC VOMITING SYNDROME OFTEN SHOWS UP LIKE A SURPRISE STORM. BEFORE AN EPISODE, MANY TEENS (AND CHILDREN) FEEL A "WARNING PHASE," WHERE THEY SUDDENLY GET ANXIOUS, PANICKY, OR FEEL LIKE SOMETHING BAD IS ABOUT TO HAPPEN. THIS CAN LAST FOR AN HOUR OR LONGER. THEN THE VOMITING PHASE WILL START WITH STRONG FEELINGS OF NAUSEA AND NONSTOP THROWING UP THAT CAN LAST FOR HOURS OR SOMETIMES DAYS. EPISODES USUALLY FOLLOW THE SAME PATTERN EVERY TIME, ALMOST LIKE YOUR BODY IS REPLAYING A SCRIPT.

DURING AN EPISODE, YOU MIGHT ALSO GET STOMACH PAIN, FEEL TOTALLY WIPED OUT, OR BECOME SENSITIVE TO LIGHT OR SOUND.

COMMON TRIGGERS

STRESS LACK OF SLEEP EXCITEMENT ILLNESS NOT EATING HORMONE CHANGES TRAVEL MOTION SICKNESS



YOUR BRAIN AND GUT ARE CONNECTED! THEY TALK THROUGH A SPECIAL NERVE CALLED THE VAGUS NERVE. TOGETHER, THEY HELP YOU DIGEST FOOD, FEEL HUNGRY OR FULL, AND NOTICE WHEN SOMETHING ISN'T RIGHT.

CYCLIC VOMITING OFTEN PROGRESSES THROUGH FOUR PHASES, THOUGH NOT EVERY PERSON EXPERIENCES ALL OF THEM.



THE 4 PHASES OF A CVS EPISODE

1



PRODROME: THE "UH-OH" PHASE

- YOU JUST KNOW IT'S COMING.
- SOME TEENS DESCRIBE IT AS A WEIRD "STOMACH WARNING SIGNAL" BEFORE THE STORM HITS.
- STOMACH FEELS OFF, A LITTLE QUEASY, MAYBE A CRAMP OR TWO.
- YOU MIGHT LOOK PALE, FEEL TIRED, OR BE IRRITABLE.
- LIGHT AND SOUND SEEM EXTRA ANNOYING.

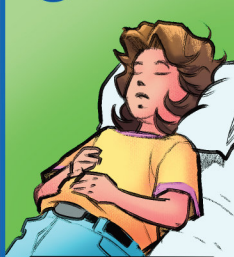
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VOMITING PHASE: THE STORM

- THIS IS THE BIG ONE: VOMITING HITS HARD AND FAST, SOMETIMES EVERY 15-60 MINUTES.
- NAUSEA IS INTENSE, STOMACH HURTS, AND YOU MAY HAVE A HEADACHE OR BE SENSITIVE TO LIGHT/NOISE.
- YOU MAY LOOK PALE, BE SWEATY, AND FEEL WIPED OUT, LIKE YOUR ENERGY JUST GOT SUCKED OUT OF YOUR BODY.
- SOMETIMES IT FEELS LIKE THE STORM WILL NEVER END... BUT IT DOES.

3



RECOVERY PHASE: PICKING UP THE PIECES

- THE STORM FINALLY PASSES, THE VOMITING AND OTHER SYMPTOMS STOP.
- YOUR APPETITE SLOWLY RETURNS, BUT YOUR ENERGY IS STILL LOW.
- FATIGUE AND A "BLAH" FEELING CAN STICK AROUND FOR HOURS OR EVEN A FULL DAY, IT'S YOUR BODY'S WAY OF SAYING, "I NEED A BREAK BEFORE I GET BACK TO NORMAL."

4



WELL PHASE: BACK TO NORMAL

- LIFE FEELS NORMAL AGAIN! YOU CAN GO TO SCHOOL, HANG OUT WITH FRIENDS, AND DO SPORTS.
- NO NAUSEA, NO VOMITING, YOU'RE BACK TO REGULAR LIFE.
- THIS CALM PHASE CAN LAST WEEKS OR MONTHS.
- ENJOY IT, AND RECHARGE!

UNDERSTANDING TRIGGERS AND EARLY WARNING SIGNS

- **WHEN YOUR BODY TALKS**, IT'S SMART TO LISTEN.
- **KNOW YOUR TRIGGERS:** STRESS, ANXIETY, BIG CHANGES, EXCITEMENT, LACK OF SLEEP, BEING SICK, OR SKIPPING MEALS AND GETTING DEHYDRATED.
- **KEEPING A DIARY:** WRITE DOWN WHAT YOU EAT, HOW YOU SLEEP, AND HOW YOU FEEL. YOU'LL START SEEING PATTERNS THAT CAN HELP YOU AVOID THE STORM!
- **SOMETIMES YOUR BODY GIVES EARLY WARNING SIGNS:** A LITTLE NAUSEA, UNUSUAL TIREDNESS, DIZZINESS, MOOD SWINGS, OR BEING SENSITIVE TO LIGHT AND SMELLS. WHEN YOU NOTICE THESE SIGNS, IT'S TIME TO ACT! DRINK FLUIDS. REST. USE YOUR CALMING TOOLS. FOLLOW YOUR DOCTOR'S PLAN.
- **PAYING ATTENTION AND ACTING FAST** CAN HELP YOU FEEL MORE IN CONTROL AND READY FOR WHAT'S COMING.

STEPWISE MANAGEMENT OF CVS



1. IDENTIFY & MANAGE TRIGGERS: "STOP THE SPARK"

WITH CVS, KEEPING A STEADY ROUTINE CAN REALLY HELP! EAT REGULAR MEALS, GET GOOD SLEEP, AND STAY HYDRATED. TRY TO MANAGE STRESS WITH RELAXATION, DEEP BREATHING, OR TALKING THINGS OUT WHEN YOU'RE FEELING TENSE. MOST IMPORTANTLY, START NOTICING WHAT SEEMS TO SET OFF YOUR EPISODES. ONCE YOU KNOW YOUR PERSONAL TRIGGERS, YOU'LL HAVE THE POWER TO SWITCH THEM OFF BEFORE THEY LIGHT THE FUSE.

2. PREVENTIVE CARE: "ARMOR UP"

IF CVS KEEPS CRASHING YOUR PLANS OR MAKING YOU MISS SCHOOL, IT'S TIME TO TAG IN YOUR DOCTOR! THERE ARE MEDICINES AND TREATMENTS THAT CAN HELP CALM YOUR STOMACH AND STOP EPISODES FROM OCCURRING. WITH THE RIGHT PLAN, YOU CAN GET BACK TO DOING WHAT YOU LOVED.



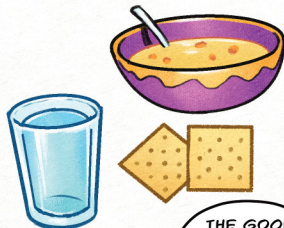
3. PRODROMAL CARE: WHEN CVS OCCURS, "STOP IT EARLY"... IN OTHER WORDS PREVENT A FULL-BLOWN EPISODE.

WHEN YOU FEEL THAT FIRST CVS WAVE OF WARNING -- THE ANXIOUS, UNEASY FEELING OR THAT HINT OF NAUSEA -- THAT'S YOUR CHANCE TO STOP THE STORM EARLY! SOME TEENS TAKE MEDICINE AT THE VERY FIRST SIGNS TO KEEP THINGS FROM TURNING INTO A FULL-BLOWN EPISODE. YOUR DOCTOR MIGHT SUGGEST DIFFERENT MEDICATION DEPENDING ON THE SYMPTOMS YOU FEEL. TRY RESTING IN A DARK, QUIET ROOM, AND SIP FLUIDS SLOWLY. YOU MIGHT NEED TO GO TO A HOSPITAL AND GET IV FLUIDS IF YOU CAN'T KEEP ANYTHING DOWN. CATCHING CVS EARLY CAN MAKE A HUGE DIFFERENCE IN HOW INTENSE OR LONG AN EPISODE BECOMES.



4. RECOVERY: "CLIMBING OUT"

AFTER THE STORM PASSES, YOUR BODY NEEDS TIME TO RECHARGE AND RECOVER. START SLOWLY: BEGIN WITH CLEAR LIQUIDS LIKE WATER, BROTH, OR ELECTROLYTE DRINKS, THEN MOVE TO BLAND FOODS SUCH AS CRACKERS, RICE, OR TOAST BEFORE RETURNING TO YOUR REGULAR MEALS. KEEP SIPPING FLUIDS TO STAY HYDRATED, EVEN IF YOUR APPETITE HASN'T FULLY RETURNED. REST AS MUCH AS YOU NEED -- YOUR BODY HAS BEEN THROUGH A LOT! IT'S ALSO NORMAL TO FEEL TIRED OR A LITTLE EMOTIONAL AFTER AN EPISODE, SO LEAN ON YOUR SUPPORT SYSTEMS FOR COMFORT AND REASSURANCE. ONCE YOU'RE FEELING STEADIER, RESTART ANY PREVENTIVE MEDICINES YOUR DOCTOR PRESCRIBED TO HELP KEEP FUTURE EPISODES AT BAY.



THE GOOD NEWS IS THAT FOR MOST TEENS, CVS DOESN'T LAST FOREVER.

MANY PEOPLE SEE THEIR CVS EPISODES BECOME LESS INTENSE, LESS FREQUENT OR EVEN STOPPED COMPLETELY OVER TIME. THIS USUALLY OCCURS WITHIN A FEW YEARS.

EVERYONE'S CVS JOURNEY IS A LITTLE DIFFERENT, BUT MOST TEENS LEARN HOW TO MANAGE THEIR TRIGGERS, SPOT EARLY WARNING SIGNS, AND BOUNCE BACK FASTER AFTER EPISODES. WITH THE RIGHT TOOLS, TEAMWORK, AND A LITTLE PATIENCE, LIFE CAN START FEELING STEADY AGAIN WITH FEWER STORMS AND MORE SUNNY DAYS AHEAD.



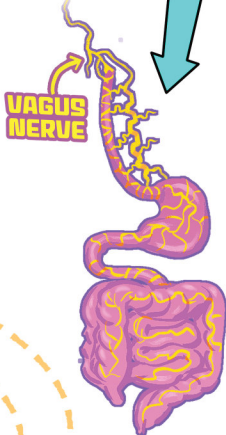
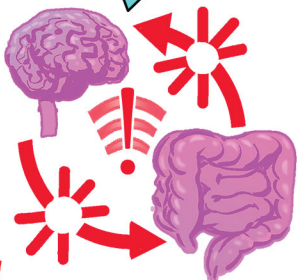
BRAIN-GUT FACTOIDS ABOUT CVS



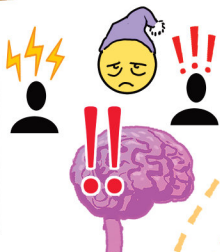
1. YOUR BRAIN AND GUT ARE BFFS -- THEY CONSTANTLY "CHAT" THROUGH NERVES AND CHEMICALS.

2. IN CVS, THIS COMMUNICATION CAN GLITCH, WHICH CAN TRIGGER VOMITING EPISODES.

3. THE VAGUS NERVE IS A MAJOR "PHONE LINE" BETWEEN YOUR STOMACH AND BRAIN, AND IT SENDS SIGNALS THAT SOMETIMES GET MISINTERPRETED.



4. STRESS, EXCITEMENT, OR LACK OF SLEEP CAN MAKE THE BRAIN-GUT SIGNALS GO HAYWIRE.



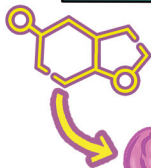
5. SOME TEENS WITH CVS HAVE BRAINS THAT ARE EXTRA SENSITIVE TO TRIGGERS, WHICH IS WHY EPISODES CAN COME ON QUICKLY.

6. MIGRAINES AND CVS SHARE BRAIN-GUT PATHWAYS, WHICH IS WHY CVS IS SOMETIMES CALLED A "STOMACH MIGRAINE."

MIGRAINE
CYCLIC VOMITING
SYNDROME



7. THERE ARE A LOT OF NEUROTRANSMITTERS IN THE GUT! NEUROTRANSMITTERS CARRY MESSAGES BETWEEN NERVE CELLS AND TARGET CELLS. NINETY PERCENT OF SEROTONIN, A POWERFUL NEUROTRANSMITTER, IS IN THE GUT!



THE BRAIN-GUT AXIS HELPS EXPLAIN WHY RELAXATION, SLEEP, AND HYDRATION CAN ACTUALLY REDUCE EPISODES.

LEARNING YOUR BODY'S EARLY WARNING SIGNS HELPS YOU INTERVENE BEFORE THE BRAIN-GUT "STORM" HITS.

RESEARCH IS STILL UNCOVERING HOW THE GUT AND BRAIN INTERACT. THE MORE WE LEARN, THE BETTER TEENS CAN MANAGE CVS.

