

Traumatic Brain Injury and Sleep

SLEEP IS COMPLEX AND INVOLVES MANY PARTS OF THE BRAIN. A TRAUMATIC BRAIN INJURY (TBI) CAN CAUSE MANY DIFFERENT TYPES OF SLEEP PROBLEMS. WE ALL HAVE AN "INTERNAL CLOCK" THAT HELPS OUR BODIES KNOW WHEN TO SLEEP AND WAKE UP. TBI CAN CAUSE OUR BRAIN TO SEND THESE MESSAGES AT THE WRONG TIME.

JAVIER HAS A HARD TIME FALLING ASLEEP AND HIS LACK OF SLEEP MADE HIS ANXIETY WORSE. HE ALSO BECAME FATIGUED AND IRRITABLE EASILY, IT REALLY MADE OUR LIVES HARDER.

NOT GETTING ENOUGH SLEEP CAN ALSO LEAD TO POOR PERFORMANCE OR ACCIDENTS AT WORK.

CRASH!

TOO LITTLE SLEEP CAN INCREASE DEPRESSION AND MAKE AUTO ACCIDENTS MORE LIKELY.

OUR BODIES MAKE CHEMICALS THAT HELP CONTROL OUR SLEEP CYCLES.

A TBI CAN CHANGE THE WAY THAT THESE CHEMICALS AFFECT US.

WHAT ARE YOU DOING UP?
IT'S 3 AM!

I COULDN'T SLEEP SO I GOT UP TO WATCH A MOVIE AND HAVE A BEER OR TWO TO HELP ME RELAX.

I DIDN'T REALIZE THAT THIS WAS STILL HAPPENING. MAYBE WE SHOULD TALK TO DR CUSHING?

THAT'S A GOOD IDEA, I'LL CALL HER TOMORROW.

MORE THAN HALF OF PEOPLE WITH BRAIN INJURIES HAVE SLEEP PROBLEMS. ISSUES WITH SLEEP BECOME MORE COMMON AS PEOPLE GROW OLDER.

GETTING A CONSULTATION

NOT BEING ABLE TO FALL ASLEEP IS CALLED INSOMNIA, IT TYPICALLY BECOMES LESS OF A PROBLEM WITH RECOVERY FROM TBI.

SO, WHAT CAUSES IT?

LOTS OF THINGS... ANXIETY, DEPRESSION, A MEDICATION YOU'RE TAKING, OR EVEN JUST YOUR BEDTIME ROUTINE. I THINK YOUR PROBLEM MAY BE CAUSED BY YOUR TBI.

IS THERE A PILL I CAN TAKE OR SOMETHING?



THERE ARE MEDICATIONS THAT WILL HELP WITH SLEEP, BUT MANY AREN'T RECOMMENDED FOR PEOPLE WITH TBI.

GOOD QUESTION! MOST NONPRESCRIPTION SLEEPING MEDICATIONS CONTAIN ANTI-HISTAMINE, WHICH CAN CAUSE MEMORY PROBLEMS AND OTHER SIDE EFFECTS.

MEDICATIONS AND SLEEP PROBLEMS

WHY NOT?



SOME OTHER COMMON SIDE EFFECTS ARE TROUBLE LEARNING NEW THINGS, DRY MOUTH, CONSTIPATION, RETENTION OF URINE, OR NIGHTTIME FALLS.

SOME MEDICATIONS CAN MAKE SLEEP MORE DIFFICULT. DRUGS FOR ASTHMA, DEPRESSION, OR DAYTIME DROWSINESS CAN ALL CAUSE INSOMNIA.

ON THE OTHER HAND, SOME MEDICINES CAN MAKE PEOPLE TIRED DURING THE DAY.



OFTEN THIS CAN BE ADDRESSED BY WORKING WITH YOUR DOCTOR TO ADJUST WHEN YOU TAKE YOUR MEDICATION OR POSSIBLY CHANGING YOUR PRESCRIPTION.

EVALUATING SLEEP PROBLEMS



WELL, I'D LIKE TO DO AN EVALUATION OF YOUR SLEEP PROBLEMS. FIRST I'LL DO A PHYSICAL EXAM AND THEN WE'LL TALK ABOUT YOUR BEDTIME ROUTINE...



YOUR DR WILL TALK TO YOU ABOUT YOUR MEDICATIONS AND HOW LONG YOU'VE BEEN HAVING SLEEP PROBLEMS. THEY WILL ALSO EXPLORE POSSIBLE CAUSES OF YOUR SLEEP PROBLEMS, LIKE PAIN AND DEPRESSION

JAVIER DOESN'T HAVE THIS BUT, TBI CAN ALSO CHANGE YOUR BRAIN'S CONTROL OF BREATHING. THAT CAN CAUSE LOUD SNORING AND SOME TIMES EVEN BRIEF PAUSES IN BREATHING DURING SLEEP. THIS IS CALLED "SLEEP APNEA"



SLEEP APNEA
SLEEP APNEA CAUSES YOUR BRAIN TO GET LESS OXYGEN, AND THAT CAN LEAD TO HEADACHES AND FATIGUE. YOU ARE MORE LIKELY TO HAVE SLEEP APNEA IF OTHER PEOPLE IN YOUR FAMILY HAVE IT OR IF YOU ARE OVERWEIGHT.



OTHER SLEEP DISORDERS:

DELAYED SLEEP PHASE SYNDROME...

IS NATURALLY FALLING ASLEEP AND WAKING LATER THAN NORMAL

NARCOLEPSY...

MAKES PEOPLE FALL ASLEEP SUDDENLY AND UNCONTROLLABLY DURING THE DAY

POST-TRAUMATIC HYPERSONNIA...

CAN CAUSE PEOPLE TO SLEEP MORE HOURS THAN NORMAL

SLEEPWALKING...

IS WALKING OR DOING OTHER THINGS WHILE ASLEEP

RESTLESS LEG SYNDROME...

I just can't get comfortable!

THE URGE TO MOVE YOUR LEGS BECAUSE THEY'RE UNCOMFORTABLE, ESPECIALLY WHEN SLEEPING OR LYING DOWN

EXCESSIVE DAYTIME SLEEPINESS...

IS EXTREME DROWSINESS DURING THE DAY

BRUXISM...

IS GRINDING YOUR TEETH AT NIGHT

PERIODIC LIMB MOVEMENT DISORDER...

IS INVOLUNTARY MOVEMENT OF ARMS OR LEGS DURING SLEEP

LATER...

WELL JAVIER, I THINK THAT YOUR INSOMNIA IS BEING CAUSED BY YOUR ANXIETY. HOW DO YOU FEEL ABOUT TALKING TO A COUNSELOR?

NOT SURE... NOT REALLY INTO TOUCHY FEELY STUFF.

THE GOAL OF COUNSELING FOR ANXIETY IS TO EITHER EXAMINE THE SOURCES OF YOUR ANXIETY AND COME TO TERMS WITH THEM OR TO TRAIN YOUR BODY TO CALM DOWN WHEN YOU'RE FEELING ANXIOUS.



I GUESS I COULD GIVE IT A SHOT.

GREAT! I'LL GET YOU SOME NAMES ON THE WAY OUT

I DON'T ALWAYS DO THIS BUT I'D LIKE TO REFER YOU FOR A SLEEP LAB TO MAKE SURE THAT THERE ISN'T ANYTHING ELSE GOING ON.

WHAT'S A SLEEP LAB?

YOU'LL STAY OVERNIGHT IN A CLINIC WHERE THEY WILL MONITOR YOUR SLEEP CYCLES. THAT WILL HELP ME FIGURE OUT IF YOU HAVE OTHER COMPLICATIONS WITH YOUR SLEEP.

IT WILL HELP ME PUT TOGETHER A TREATMENT PLAN. IN THE MEANTIME, COUNSELING WILL LIKELY HELP WITH YOUR ANXIETY. HERE'S A LIST OF SOME OTHER THINGS THAT WILL HELP YOU GET BETTER SLEEP.

OK, I'LL DO THAT, IF YOU THINK IT WILL HELP.

WHAT CAN I DO?

- 1) USE AN ALARM TO WAKE YOU UP AT THE SAME TIME EVERY DAY, AND TRY TO GO TO BED AT THE SAME TIME EVERY NIGHT.
- 2) EXERCISE DAILY - PEOPLE WITH TBI WHO EXERCISE REGULARLY REPORT FEWER SLEEP PROBLEMS.
- 3) DON'T EAT RIGHT BEFORE BED OR GO TO SLEEP HUNGRY, THAT WAY YOU WON'T WAKE UP BECAUSE YOU'RE TOO HUNGRY OR FULL.
- 4) DON'T EAT, WATCH TV, OR READ IN BED.
- 5) IF YOU DON'T FALL ASLEEP IN 30 MINUTES, GET UP AND DO SOMETHING RELAXING OR BORING UNTIL YOU FEEL SLEEPY.

MARY READ THAT SOME PEOPLE FIND THAT NATURAL REMEDIES HELP THEM SLEEP. SOME WORKED FOR ME, OTHERS DIDN'T DO MUCH.

THESE ARE AVAILABLE AT MOST NATURAL FOOD OR DRUG STORES. BE SURE TO TELL YOUR DOCTOR IF YOU'RE TAKING ANY OF THESE BECAUSE THEY INTERACT WITH SOME MEDICATIONS

BEGIN TO IMPROVE YOUR SLEEP BY CHANGING YOUR BEHAVIOR AND ENVIRONMENT



REMOVE DISTRACTIONS, CUT NOISE, KEEP THE TEMPERATURE REGULAR, AND BLOCK LIGHT FROM MY SLEEPING AREA.



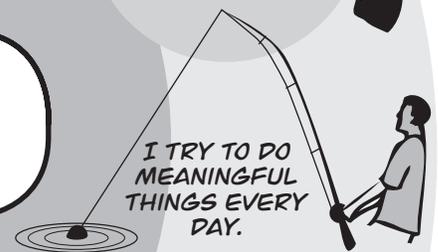
I HAVE A BEDTIME ROUTINE THAT I DO EVERY NIGHT BEFORE BED.

I USED TO HAVE A COUPLE OF BEERS BEFORE BED EVERY NIGHT SO NOW I AVOID DRINKING TOO MUCH BEFORE BED.



I'VE CUT DOWN ON THE TV I WATCH, AND I NEVER WATCH IT IN BED ANYMORE.

I MADE ALL THE CHANGES DR C SUGGESTED AND MARY DID SOME RESEARCH AND FOUND SOME OTHER THINGS THAT I'VE TRIED...



I TRY TO DO MEANINGFUL THINGS EVERY DAY.



I DON'T HAVE CAFFEINE OR NICOTINE LESS THAN FIVE HOURS BEFORE BED BECAUSE THEY ARE BOTH STIMULANTS THAT INTERFERE WITH MY SLEEP.



I GET OUTSIDE FOR SOME SUN EVERYDAY, AND WHEN IT'S CLOUDY, I USE A LIGHT BOX.

I'M SO GLAD WE TALKED TO DR. CUSHING. JAVIER'S INSOMNIA MADE OTHER PROBLEMS WORSE: HE HAD TROUBLE THINKING AND LEARNING THINGS WHEN HE WASN'T GETTING ENOUGH SLEEP. HE ALSO GOT FRUSTRATED OR ANGRY EASILY. IT WAS HARD FOR EVERYBODY. THINGS AREN'T PERFECT NOW BUT THEY'RE BETTER.



ASK YOUR DR ABOUT THESE OTHER TREATMENTS:

SLEEP RESTRICTION...

IS RESTRICTING THE TIME SPENT IN BED TO ONLY WHEN YOU'RE SLEEPING, THIS TREATMENT MAY HELP TO IMPROVE YOUR SLEEP PATTERNS.

PHOTOTHERAPY...

IS THE USE OF SPECIAL BRIGHT LIGHTS AT STRATEGIC TIMES IN THE DAY, THIS TREATMENT CAN HELP TO HAVE MORE NORMAL SLEEP STARTS AND FINISHES.

SOURCE

The health information presented in this Graphic Fact Sheet is based on evidence from research and/or professional consensus and has been reviewed and approved by an editorial team of experts from the TBI Model Systems.

AUTHORSHIP AND ILLUSTRATION

This content was taken from the document *Sleep and TBI*, which was developed by Brian Greenwald, MD and Kathleen Bell, MD, in collaboration with the Model Systems Knowledge Translation Center.

Portions of the original document were adapted from materials developed by the New York TBIMS, the Carolinas TBI Rehabilitation and Research System, and from *Picking up the Pieces after TBI: A Guide for Family Members*, by Angelle M. Sander, PhD, Baylor College of Medicine (2002).

Sleep and TBI, was adapted into this Graphic Fact Sheet by Silas James and illustrated by Matthew Cory.

Funding for this project was provided by **Veterans Training Support Center; University of Washington; University of Washington TBI Model System; Washington State Department of Veterans Affairs; National Institute of Disability and Rehabilitation Research; and King County**. This document is to be distributed free of charge. TBIMS retains ownership of both this document and its content, any modification is prohibited. © TBIMS, 2014

