

Introduction

CB: Hello and welcome! This is Cathy

MC: and Mike

CB: and we are super excited to be launching our first episode of The Med Thread, a medication information station from the School of Pharmacy at Memorial! Each month we will bring you an exciting topic related to medications, disease conditions, pharmacy practice and more!

MC: Today we talk sleeping pills through the ages but

Before we start, I believe we should do some introductions!

CB: I am a clinical pharmacist working at the Medication Therapy Services Clinic here at Memorial. That's a mouthful but we call it the MTS Clinic for short. I see patients for a variety of different reasons through the clinic and work with their healthcare providers to make sure they're on the best medications for them! I also coach a smoking cessation program and I get to do a lot of deprescribing as well – more on that in other episodes!

MC: And I am a pharmacist originally from Ontario, moved here to Newfoundland about 10 months ago and now work at the School as the Drug Information Pharmacist. People often ask me what that is, so essentially, I answer any questions about medications, treatments and curiosities from health care professionals all over the province.

As I mentioned, we are starting our podcast with some of the earliest drugs discovered and still among the most widely used drugs today – sleeping aids. We'll take you through a few sleep stats, why sleep is important, what therapies we have and what the evidence says about them. We promise this episode will NOT put you to sleep, but we are going back in time first.

CB: Going way back, ancient Greeks and Egyptians developed sleeping potions using the opium poppy, they distilled morphine and heroin from it for their drowsy properties. Interestingly, the Greek god of sleep, Hypnos, holds a bundle of poppies which he sprinkles over people to sleep. Does anyone remember the scene from the Wizard of Oz of Dorothy in the poppy field? Maybe this will jog your memory:

Poppies weren't the only sleep-aid used through the years – various things were used like the bark of the mandrake root and seeds of the henbane tree – even the juice of lettuce! Apothecaries of the Middle Ages in Europe stocked “spongia somnifera” which sounds like a spell from Harry Potter but was actually a sponge soaked in wine and herbs. Countless “drowsy syrups” were concocted over the years, leading us to where we are today!

Let's get this episode rolling with why sleep is so important...

Introduction to topic – why we chose sleeping therapies, neat history fact, prevalence

MC: According to Stats Canada, more than half of adults in Canada say their shuteye is fitful at times. They did a study of Canadians aged 18-64 over a 6 year time period and found that 43% of men and 55% of women reported trouble going to sleep or staying asleep. That is half of the country!
(Chaput, 2017)

What makes a person more likely to have trouble sleeping?

CB: A few things, including, being female, older age and having a poor impression of your own physical and mental health. Actually, a recent study showed that our trouble sleeping as a nation is driven largely by the midlife women demographic, likely due to hormonal changes, increased stress and being a part of the sandwich generation – taking care of children and aging parents at the same time.

MC: Sometimes it is normal to not sleep well – maybe you're sick, you're grieving, you're worried about work or school or children, maybe you had an argument or you're up late trying to cram for the next exam, maybe you just had kids or you have a big job interview tomorrow. That is normal.

And how many people actually seek help for sleep?

CB: One study showed, only 13% of those called by a telephone survey said they saw a doctor for their sleep troubles. 10% had used prescribed sedatives in the last year. 9% had used natural products, 6% used OTC products and 5% used alcohol.
(Morin, 2011)

Why sleep is a problem – why it is important and why we turn to medication

CB: Your body needs sleep to repair and restore. Sleep helps to improve mood and lowers stress, improves athletic performance and coordination, and increases your ability to pay attention and remember new information. It also helps you regulate your appetite hormones and maintain a healthy weight. One study showed that sleep actually gives your brain a bath! They found that during sleep your body flows Cerebrospinal fluid over the brain and opens interstitial spaces to help clear the neurons of waste products, and lack of sleep may actually lead to degenerative disorders like Alzheimer's disease! Pretty incredible right?
(Xie, 2013)

MC: I also read that when you're sleep deprived there is a 40% decline in learning compared to those that are well rested, and when people get less sleep they tend to see the "glass as half empty" instead of full!
(Walker, 2006) (Vargas, 2017)

We know that we need sleep to function properly, but how much sleep?

CB: The Sleep Foundation says adults 7-9 hours of sleep a night. Kids need more and older adults may require a little less, but the old 8 hours a night tends to fit for most people.
(Hirshkowitz, 2015, <https://sleepfoundation.org/sleep-duration-recommendations>)

MC: Now, I certainly don't get the 7-9 hours, but it begs the question, are we sleeping less than we used to? And maybe we don't need that much sleep now?

CB: Well, our sleeping patterns are getting worse – Stats Canada found that Canadians are getting about an hour less sleep per night than we used to with an average of 7.12 hours more recently compared to a blissful 8.2 hours in 2005.
(Chaput, 2017)

MC: That's an extra hour of work I can do! I read an article in the news where Dr. Luc Beaudoin, a professor at Simon Fraser University says "We've got time compression" – people have an enormous amount of activities that they need to do or that they feel they need to do. And it's true but I do try to make up for it!
(Lee, 2017)

CB: Yes, and we're turning to the old 'cup of joe'.

It is not OK to just work on a few hours of sleep and big cups of coffee. According to the AAA foundation for traffic safety – drivers who get one or two hours less than the recommended 7 hours of sleep nearly double their risk for a car crash! And those that miss 2-3 hours of sleep QUADRUPLE the risk.

And even though the overwhelming majority surveyed say they believed driving while drowsy is completely unacceptable behavior, 1/3 admitted to doing so at least once in the past month.
(Tefft, 2016)

MC: So how do I know if I have insomnia?

(Therapeutics briefly adapted from TOP, CEP Tool, DSM-V, drug monographs)

CB: To be considered to have *insomnia disorder* you have to have trouble sleeping despite an adequate opportunity for sleep and you have to have daytime impairment. You can have trouble at the beginning, middle or end of the night and in order to be classified as a disorder you have to problems at least 3 nights per week.

MC: There is a difference between not sleeping for a few nights here and there and not sleeping for months.

CB: There sure is. Acute insomnia lasts less than a month and chronic lasts more than 3 months. Acute is just when you're adapting to a new situation or going through a life event like an illness or stressful time, or even when you go through jet lag or adjust to shift work. This usually goes away when the event goes away but sometimes it can morph into a chronic problem.

Chronic insomnia can either have no real reason or rhyme to why it happens but it can also be secondary to another medical issue like pain or dementia, hot flashes, restless legs syndrome, sleep apnea, a psychiatric illness and the list goes on.

MC: Plus, medications can cause insomnia so look out for drug-causes like stimulants, steroids and others and of course caffeine. That coffee or tea in the afternoon (or evening) can be a big culprit for keeping us awake whether we want it to or not.

Don't forget alcohol! We heard earlier that about 5% of us have used alcohol to get to sleep but this isn't a quick fix. Alcohol affects our sleep quality and even though you might feel groggy and able to get to sleep it often leads to restless nights

CB: and that horrendous morning hangover!

MC: And we haven't even started to look at medications that can affect sleep. Opioids is a big problem; taking it with sleeping medications can cause cumulative sedation which can affect breathing. A review I found, lists over 100 drugs that can impact sleep in various ways. They looked at sleep architecture, so the quality and stages of sleep. They listed drugs that can cause restless legs, dreams and nightmares. All of these can seem and feel like insomnia and I'm sure their list is not exhaustive. It's definitely something to talk to a pharmacist about and maybe it should be a standard question in our medication reviews. Cathy, do you do sleep assessments at the MTS clinic?

(Foral, 2011)

CB: We do what's called a 'review of systems' and sleep is definitely asked about and discussed. In addition, it's on our mind when we look at our patient's list of medications and think about potential problems.

MC: So what drugs do we use to treat insomnia?

What is available and evidence

CB: We've mentioned some of odd and fascinating therapies for sleep in antiquity, from herbs to alcohol, but what was the first drug with an official indication for sleep in Canada?

MC: So one of the first drugs ever listed that I can still find on Health Canada's database has a Drug Identification Number or DIN of 19, and is called Placidyl or chemically, ethchlorvynol, a derivative of methanol. It was used as a sedative. The next drug on the list, DIN 86, Nembutal or pentobarbital, also a sedative.

CB: It's hard to imagine that there were 2 digit DIN numbers when now they are 8 digits long. You can see how important these medications were in our society at the time and the need for regulation of their use.

MC: I agree, and going back further, I have here a reprint of the first Merck's Manual, published in 1899, the go-to guide for medications back then. We'll post the list on our webpage after the show and you can see how many you recognize!

Merck Manual list of insomnia treatments (1899)

Acetanilid	Butyl-chloral hydrate	Chloroform	Gelsemium	Musk	Sitz bath	Trional
Aconite	Camphor,	Cocaine	Glycerin	Narceine	Sodium	Urethane

	monobromate d	Hydrochlorat e	ophosphates		bromide	
Alcohol	Cannabis indica	Codeine	Hot-water bags to feet and cold to head	Narcotine	Sodium Lactate	Valerian
Ammoniu m valerianate	Cannabine tannate	Coffee	Humulus: a hop-pillow	Opium	Spermine	Warm bath
Amylene hydrate	Chloralamide	Cold douche	Hyoscine hydrobromat e	Paraldehyde	Strychnin e	Warmth
Atropine with morphine	Chloral- ammonia	Digitalis	Hyoscyamus	Pellotine hydrochlorate	Sulfonal	Water
Bath	Chloral hydrate	Duboisine	Hypnone	Phosphorus	Sumbul	Wet compres s
Belladonna	Chloralimide	Ether	Ignatia	Potassium bromide		Wet pack
Bleeding	Chloralose	Ethylene bromide	Methylene blue	Removal inland	Tartar emetic	
Bromo- hemol	Chlorobrom	Galvanization	Morphine	Scopolamine hydrobromat e	Tetronal	

But in 1864, the first barbiturate chemically called malonylurea was synthesized in Germany by Adolf von Baeyer,

CB: no relation to Bayer Pharmaceutical Company,

MC: So the story goes that he made it and went out to celebrate. It so happened it was also a holiday, the feast day of Saint Barbara, a day of celebration, and so he combined the word urea from malonylurea and called the new chemical barbituric acid. And thus began over a hundred years of barbiturate use as a sedative and hypnotic. Today, barbiturates are not commonly used in people and we'll talk about why a little later.

You'll also still see chloral hydrate, a very old medication originally used for insomnia, but now indicated as a sedative in pediatrics prior to medical tests like EEGs or MRIs. There are often better options now. I remember dispensing it a few times for children with epilepsy. Have you ever dispensed it Cathy?

CB: I've dispensed it once for a lady who was still having insomnia despite being on high-dose temazepam and zopiclone and it was used as a last resort.

MC: Some of you listeners may remember Quaaludes, 'alluded' to in our earlier clip. It was used a lot in the 60s and 70s, made popular again by films like Wolf of Wall Street.

It goes by some other names as well, the chemical, methaqualone, or Mandrax, another brand. Though far from the mandrake plant, methaqualone bears a striking resemblance in terms of the potential dangers and toxicities!

CB: Originally marketed to housewives with sleep disorders, these became a popular drug of abuse. If you resisted the urge to sleep a pretty strong "high" was felt, and in the early 80s the FDA made them unavailable as prescription drugs and essentially illegal to possess.

MC: Then we have benzodiazepines, some of the first synthesized sleep aids that are still used today. They work in a similar way to the barbiturates, by enhancing or stimulating the GABA system, which is the body's natural inhibitory neurotransmitter system.

CB: The first was chlordiazepoxide, also known as Librium in 1955, and then came Valium, or diazepam, in 1963. The biggest perk to these was they caused less respiratory depression than barbiturates. Doctors were excited by these new options and their popularity skyrocketed. After 15 years though, they became more known for their abuse and dependence and clinicians became less enthused.

MC: One benzo, triazolam, has caused quite a stir in the media over the years, and for good reason! Originally marketed as Halcion and hitting the Canadian market in 1978 it was seen as an ideal sleep aid for acute insomnia and also for jet lag since it knocked people out in a hurry and cleared the body so quickly that there was almost no grogginess the next day – of course it became popular. They now had a sleep aid with no hangover. Sound too good to be true?

CB: It certainly is. Where it became really popular was through a variety of murder cases!

Ilo Gurndburg murdered her mother while taking Halcion in the mid-1980s and went free in 1989 after it was determined that she was involuntarily intoxicated by taking the medication which was intended only for a short-term use, for much of a year.

And she wasn't the only one; this drug's history is riddled with murder cases and stories of peculiar psychiatric changes like amnesia, hallucinations, paranoia and verbal and physical aggression. The manufacturers dropped the recommended dose but side effects still went up and up.

It wasn't just murder – there was a gentleman who ransacked a schoolhouse, another man who started setting fires, and more. Although this medication is still on the market, it clearly isn't without side effects.

MC: Another culprit is the terrible drug Rohypnol or flunitrazepam. Known as the 'date-rape' drug, it caused blackouts, memory loss and occasionally impulsive and violent behaviour. Luckily, this is not a drug available in Canada

Insomnia: You're Getting Sleepy

CB: and thankfully the drug makers of the world have found other alternatives. We now have other options that have longer half-lives and have a wider margin of safety. The newer z-drugs still target the same GABA system we mentioned, so some of the side effects are similar.

MC: And the cases still come in so it's not only the benzodiazepines now. In criminal cases, there are reports of amnesia while on sleep meds so often that there's actually jargon for it in the courts. Sometimes it's called "Ambien defense". Ambien being the American brand name for zolpidem, one of those Z-drugs.

CB: You're right, the struggle to find a balance between creating something that works for sleep while minimizing side effects continues to be a challenge for pharmaceutical companies.

MC: So what else is out there? Let's go to a few Canadian guidelines for treating insomnia.

Guidelines

CB: The Toward Optimized Practice group or TOP group, has great guidelines for insomnia. They stress that sleep aids should be used only at low doses, short term, alongside cognitive and behavioural therapies.

MC: So what does short-term mean exactly?

CB: Short term means less than 7 nights in a row. Any long term use should be intermittent, less than 3 times per week when needed. They can also be used on a scheduled basis to ensure when you have a patient with chronic insomnia and you want to prevent a relapse.

MC: I think we can recognize a problem here, and that is, we intended these drugs to be used short-term. But in reality, they may be used much longer. A study in BC last year showed that one in ten patients prescribed a benzodiazepine or benzodiazepine-like drug were given a supply of 3 months or more. And while we thought older patients were an issue, the patients we are prescribing to are getting younger. It's hard to say whether they were prescribed just for sleep, but if we consider that chronic use may subsist into old age, then we're in for problems in the future. We'll have an episode or two on deprescribing in the future, but let's move along to, what drugs we should use first.

(Weymann, 2017)

CB: You bet we often see them long term, through my community practice I often see sleep aids written for 3 months at a time, or more!

When it comes to the guidelines, they list only 2 drugs as our first-line options. These are zopiclone and temazepam, which have the most evidence for efficacy and safety. Zopiclone is beneficial in that it has a short half-life and a lower risk of morning hang-over but I do often hear complaints of a metallic after-taste.

Then we've got temazepam, and although benzodiazepines have a bad rep, this one has an intermediate half-life and a low-moderate risk of morning hang-over so that's a plus. The downside to both is there is a potential for tolerance and dependence, more so with temazepam, but worth considering for sure.

Zopiclone is a z-drug and in recent years we've got a new z-drug on the market, zolpidem, which we mentioned earlier. I feel like I'm on Sesame Street with all this z-drug talk.

MC: If I may digress a little, this is interesting.

The FDA recently approved a different formulation of zolpidem, similar to the Canadian brand. It's called "Intermezzo". You may recognize the word intermezzo, a term used in opera and music as the connecting piece between acts. Or more often now, you hear it in dining, referring to a palate cleanser between courses. It's somewhat fitting, considering the drug is indicated for insomnia with middle-of-the-night waking! And it's quite fascinating how a real word has turned into a brand name! More on that in future episodes.

CB: So if the 1st line drugs don't work we move to our second line agent – trazodone - with only a moderate level of evidence for how well it works for insomnia and a variety of potential side effects. We know we see high doses of trazodone when used for depression but it can be so sedating it is used for insomnia at low doses. Trazodone has a short half-life and lower risk of morning hangover, although we do want to watch out for dizziness from orthostatic hypotension.

MC: Although not mentioned by TOP, guidelines from the Center for Effective Practice on managing chronic insomnia note that doxepin; an old antidepressant has been reformulated at a lower dose and remarketed for frequent nocturnal or early morning awakening. It is also an option in patients who have substance abuse or dependence issues as it has a minimal risk of physical dependence, but it too can lead to next-day drowsiness.

CB: And we know that's not all that is out there. You've likely heard about melatonin and maybe you've heard of valerian root and tryptophan too, these supplements are available in pharmacies and natural health stores and often marketed to improve sleep.

What does the evidence say about these?

MC: Well, there isn't much evidence supporting how well they work and although some small trials showed a small benefit, other trials did not.

Melatonin is gaining popularity with the natural health products movement; it is a hormone released from the pineal gland in darkness to regulate sleep however, the quality of research surrounding it is poor. It may be useful for jet-lag and shift work but the doses vary. There is no tolerance or dependence concern but there are purity concerns and it isn't without side effects like dizziness and abdominal cramps.

CB: Then there is tryptophan, this is consumed in the diet through foods (like cheese, shellfish, beans, eggs

MC: and you'll find a bit in that warm glass of milk!

Insomnia: You're Getting Sleepy

CB: It gets converted to serotonin and is thought to be useful for some mood disorders and people have used it for sleep, but it really isn't shown to be effective, and there is no real long-term safety data so it shouldn't be recommended unless it is being used for depression.

MC: I've seen it sometimes used for children at prescription doses but the evidence isn't really there and we definitely need more research on it.

CB: For children and adults, of course this brings risk of serotonin syndrome when used with other antidepressants and it can cause dry mouth, dizziness and gastrointestinal upset.

MC: Valerian root is another herbal supplement with some evidence in insomnia related to menopause and medical illnesses but we really don't know the long term safety of it. We do know it can cause dizziness, nausea, and upset stomach. And it may take a few weeks to see its result.

These 3 agents may be options for people looking for a "natural" agent but they should be aware it may not work.

Oh, what about those OTC sleep aids like Unisom and Sleep-eze?

That clip was from an ad for Sleep-eze in 1969! I think the medicinal ingredient has changed since then.

CB: Well they're just Benadryl or diphenhydramine, remarketed for sleep as we all know how sleepy we can get when taking it. Gravol is another OTC product that is used and sometimes abused for sleep and these can all cause daytime sleepiness and impaired memory as well as dry mouth and constipation. So although they may help here and there they should not be used long term and tolerance actually develops quite quickly – like 3 days quick! Then they won't work anymore.

MC: Now that we've got the recommended and other commonly used therapies out of the way, let's be aware of those therapies that are not recommended.

CB: These include antidepressants which don't have much evidence at all unless insomnia is a function of their mood disorder; amitriptyline has some evidence but has significant side effects like weight gain and daytime fatigue.

Antipsychotics should not be used for sleep as they carry more side effects than what they're worth like metabolic syndrome and psychomotor effects. I see these used sometimes in the elderly and these can also increase the risk of falls!

MC: Then we've got the other benzodiazepines, diazepam, lorazepam, oxazepam, alprazolam, etc. These carry a big risk of daytime sedation and also psychomotor impairment not to mention memory issues and falls. And we certainly went over triazolam, the short-acting benzo is no longer recommended for sleep!

Ok, so that's a 10 minute crash course on medications! It's a lot to cover, is that it?

- CB: Well there's another new kid on the block in the US which and it is currently under review by Health Canada. Suvorexant, brand name Belsorma, is a dual orexin-1 and -2 receptor antagonist approved in as a treatment for sleep-onset and sleep-maintenance insomnia.
- MC: Cool, that's a new target for drug therapy!
- CB: Orexin is a hormone that keeps us awake and therefore blocking its receptors promotes sleep.
- MC: Is this much better than what we have now?
- CB: Well that's up for debate. It still has the next day fatigue and there are no comparative studies with benzodiazepines or z-drugs, so right now it remains an expensive, new option for patients for insomnia.
- MC: We should also mention cannabis because it's something a lot of people are revisiting.
- CB: Absolutely, the thing with using cannabis is that you can become dependent on this for sleep as well and when you stop you may have more trouble sleeping than before, so another thing you shouldn't rely on all the time. Plus, there's so much variability in cannabis products and individual experiences, so you really have to be careful!

So how good is a good sleeping pill?

- CB: We know what is recommended, but how good are these drugs in helping with sleep; let's talk real world scenario – how many more minutes of shut-eye do these drugs give us?
- MC: There is conflicting evidence for how much extra sleep these pills will get you but just throwing a few numbers out there for perspective, if you are to use the drugs we talked about, you'll get to sleep 10 minutes faster, and melatonin will get you to sleep just 7 minutes faster. So yes, you'll have less time tossing and turning and you'll get to sleep quicker, but not much.
(CEP Tool, 2017, Qaseem, 2015)
- CB: It's one thing to get you to sleep but what about staying asleep? How many more minutes of actual sleep will these help you get?
- MC: Well, the prescription drugs get you about 25 minutes of extra sleep and melatonin gets you 8 minutes! Keep in mind too, with long term use the benefits get less and less so looking at benzos, you'll get an extra half hour of sleep but that will decrease if used for more than a couple of weeks.
- And lastly, both benzos and z-drugs let you wake up one less time every ... 2 nights. This may be good for some people but they don't seem like they are worth the potential side effects for others.
- CB: So given that they help sleep, but only if used for just a few weeks max or if only used here and there, there needs to be something more!
- MC: And that's where Cognitive Behavioural Therapy comes in.

Rise of mindfulness, CBTi and where medication fits in

CB: These non-drug therapies are now seen as the first line and most important option for sleep troubles.

MC: If we're not talking about drugs, one of the therapies used in the past was called 'removal inland', seen in the Merck Manual as well as the Lancet in 1887. Essentially it meant patients should stay away from the sea and mountains, and go to a quiet resort inland. Apparently mountain and ocean air and sounds were not good for the chronic insomniac. Another was taking a 'warm bath'! It's great to know that non-drug measures were documented in treatment guidelines over a century ago. Are we just finding them again now?

CB: CBT is quite different and it can be used alone or with medications. What's amazing is people who use sleep meds with CBT often gradually decrease their use of meds over time. Pretty great considering the side effects we're concerned about.
(Mitchell, 2012)

MC: CBT looks at the brain and your thoughts about sleep – the cognitive piece – and also your habits around sleep – the behaviour part.

CB: The cognitive part allows users to learn about sleep and change the way they think about sleep. Often times, trouble sleeping starts from some sort of stressful event but then it often continues on beyond this because you're stressing over not being able to sleep. CBT helps your brain move past this. The behavior part looks at what habits we have that are causing us to have trouble sleeping and helps us to develop new habits that help us instead of hinder us.

MC: Now, this isn't a quick fix and just like most effective strategies out there it may take time, most people have improved sleep within 2 weeks but a 6 week approach is recommended to fully change your sleep for the better.

It also may not be enough if a person is dealing with underlying medication conditions causing the insomnia like uncontrolled depression or anxiety, and also if they're going through a grieving period like losing a loved one or a breakdown of a relationship.

CB: There are some great CBT programs out there and a bunch available online. If you're interested in programs that are reputable check out sleepwellns.ca and you can see various online programs, books and more that have been tested by sleep experts. One example is the book "Sink into sleep" by Judith R Davidson is a step-by-step workbook for reversing insomnia.

MC: So how many minutes of sleep are we talking here?

CB: 23 minutes faster and you get 20 minutes of extra sleep per night, and these benefits don't wear off!
(Turner, 2017)

So your best bet may be to try out CBT before jumping to sleep aids!

MC: What would be some quick and easy tricks to help our listeners get to sleep that we can share with them today?

CB: Well, I recently went to a public lecture by Dr. Sheila Garland, a professor here at Memorial and she had some great take-home messages. Here they are!

1. Wake up the same time every day and ensure you get morning light exposure within a half hour of waking, and she means including weekends here – each hour you throw off your sleep routine can take a full day to make up –maybe this is why Mondays are so difficult!
2. 90 minutes before bed start to dim lights, do only pleasant sedentary activity and use no backlit devices – no phones or iPads! We mentioned that our bodies produce melatonin in the dark, so this is a natural way of getting your dose of melatonin!
3. Don't spend time in bed trying to sleep, sleep effort is the enemy and forcing sleep with backfire. If you don't get to sleep in 30 mins get up and go somewhere else.

MC: And that about wraps it up on sleep. We have some extra resources and links online for your interest. And if you have topics you want to hear about or just want to send us a comment, find us on Facebook via the School of Pharmacy or mtsclinic.ca or email medthread@mun.ca.

CB: We also offer help to people who have been taking sleep-aids long term and want to try to get off of them. At the clinic we work with your prescriber and can help you determine how to best decrease your dose to avoid withdrawal. We hope you enjoyed our first episode and tune in next time, as we tackle "anemia" and answer the question, "why do I feel tired all the time?"

Thanks for listening, I'm Cathy

MC: and I'm Mike,

CB: and we hope you get a good night's sleep! Sleep tight and don't let the bed bugs bite!

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