

WEBVTT

NOTE duration:"00:59:27"

NOTE recognizability:0.810

NOTE language:en-us

NOTE Confidence: 0.654617444285714

00:00:00.000 --> 00:00:03.660 And reminders. So first Yale Sleep

NOTE Confidence: 0.654617444285714

00:00:03.660 --> 00:00:06.304 Seminar is available for CME credit and

NOTE Confidence: 0.654617444285714

00:00:06.304 --> 00:00:08.808 to receive credit you need to text the

NOTE Confidence: 0.654617444285714

00:00:08.808 --> 00:00:11.448 ID for the lecture to the Yale cloud CME.

NOTE Confidence: 0.654617444285714

00:00:11.450 --> 00:00:13.745 The ID does show up on the slide of the talk

NOTE Confidence: 0.654617444285714

00:00:13.745 --> 00:00:15.833 as well as in the chat recordings of the

NOTE Confidence: 0.654617444285714

00:00:15.887 --> 00:00:17.945 lectures are available within two weeks,

NOTE Confidence: 0.654617444285714

00:00:17.950 --> 00:00:20.326 so you can look for that as well,

NOTE Confidence: 0.654617444285714

00:00:20.330 --> 00:00:21.068 and then third,

NOTE Confidence: 0.654617444285714

00:00:21.068 --> 00:00:22.790 if you have questions during the talk,

NOTE Confidence: 0.654617444285714

00:00:22.790 --> 00:00:24.547 use the chat type questions in as

NOTE Confidence: 0.654617444285714

00:00:24.547 --> 00:00:26.351 we go and we will address them

NOTE Confidence: 0.654617444285714

00:00:26.351 --> 00:00:28.120 at the end and at the end.

NOTE Confidence: 0.654617444285714

00:00:28.120 --> 00:00:29.597 We'll also give you permission to unmute

NOTE Confidence: 0.654617444285714

00:00:29.597 --> 00:00:31.039 yourself if you'd like to ask your own.

NOTE Confidence: 0.654617444285714

00:00:31.040 --> 00:00:32.966 Question a couple of upcoming events

NOTE Confidence: 0.654617444285714

00:00:32.966 --> 00:00:35.588 that I just want to mention next week,

NOTE Confidence: 0.654617444285714

00:00:35.590 --> 00:00:37.930 April 13th is our joint conference

NOTE Confidence: 0.654617444285714

00:00:37.930 --> 00:00:38.710 Sleep Seminar,

NOTE Confidence: 0.654617444285714

00:00:38.710 --> 00:00:40.366 so we're going to be hearing

NOTE Confidence: 0.654617444285714

00:00:40.366 --> 00:00:41.890 from Doctor Sebert Sebra Abbott.

NOTE Confidence: 0.654617444285714

00:00:41.890 --> 00:00:44.172 She's going to discuss the management of

NOTE Confidence: 0.654617444285714

00:00:44.172 --> 00:00:45.969 circadian disorders the following week.

NOTE Confidence: 0.654617444285714

00:00:45.970 --> 00:00:48.130 April 20th is our visiting professor

NOTE Confidence: 0.654617444285714

00:00:48.130 --> 00:00:50.470 for the year Doctor Eileen Rosen.

NOTE Confidence: 0.654617444285714

00:00:50.470 --> 00:00:52.282 She will be speaking at Sleep

NOTE Confidence: 0.654617444285714

00:00:52.282 --> 00:00:53.490 seminar at 2:00 PM.

NOTE Confidence: 0.654617444285714

00:00:53.490 --> 00:00:55.332 It's this usual time slot on

NOTE Confidence: 0.654617444285714

00:00:55.332 --> 00:00:57.210 the future of Sleep Medicine.

NOTE Confidence: 0.654617444285714  
00:00:57.210 --> 00:00:59.492 She is also going to speak at  
NOTE Confidence: 0.654617444285714  
00:00:59.492 --> 00:01:01.070 the PCSM grand rounds.  
NOTE Confidence: 0.654617444285714  
00:01:01.070 --> 00:01:03.278 Immediately after this at 3:00 PM,  
NOTE Confidence: 0.654617444285714  
00:01:03.280 --> 00:01:05.116 and she's going to speak on sleep and sleep.  
NOTE Confidence: 0.654617444285714  
00:01:05.120 --> 00:01:06.215 Deprivation in medicine,  
NOTE Confidence: 0.654617444285714  
00:01:06.215 --> 00:01:08.405 and she will give another presentation  
NOTE Confidence: 0.654617444285714  
00:01:08.405 --> 00:01:10.818 on Thursday at our research conference.  
NOTE Confidence: 0.654617444285714  
00:01:10.820 --> 00:01:13.697 So everyone is invited to those sessions.  
NOTE Confidence: 0.654617444285714  
00:01:13.700 --> 00:01:15.270 And please email Debbie Lovejoy  
NOTE Confidence: 0.654617444285714  
00:01:15.270 --> 00:01:16.840 if you have any questions.  
NOTE Confidence: 0.654617444285714  
00:01:16.840 --> 00:01:18.120 These are hybrid sessions you  
NOTE Confidence: 0.654617444285714  
00:01:18.120 --> 00:01:19.400 will be here in person,  
NOTE Confidence: 0.654617444285714  
00:01:19.400 --> 00:01:21.722 so we would love it if you could attend  
NOTE Confidence: 0.654617444285714  
00:01:21.722 --> 00:01:24.316 in person. If you're able to do so.  
NOTE Confidence: 0.654617444285714  
00:01:24.320 --> 00:01:24.720 So now.  
NOTE Confidence: 0.654617444285714

00:01:24.720 --> 00:01:24.920 Anyway,  
NOTE Confidence: 0.654617444285714

00:01:24.920 --> 00:01:26.600 I'm going to turn the session over to Dr.  
NOTE Confidence: 0.654617444285714

00:01:26.600 --> 00:01:27.222 Ian Weir,  
NOTE Confidence: 0.654617444285714

00:01:27.222 --> 00:01:29.399 who is program director of the Newark  
NOTE Confidence: 0.654617444285714

00:01:29.399 --> 00:01:31.717 Hospital Pulmonary Fellowship and the north.  
NOTE Confidence: 0.654617444285714

00:01:31.720 --> 00:01:35.115 Fellowship and he will introduce Doctor Baum.  
NOTE Confidence: 0.654617444285714

00:01:35.120 --> 00:01:37.410 Thanks thanks take away Ian.  
NOTE Confidence: 0.862642490714286

00:01:37.960 --> 00:01:39.396 Thank you doctor Hilbert.  
NOTE Confidence: 0.862642490714286

00:01:39.396 --> 00:01:41.550 So I have the pleasure of  
NOTE Confidence: 0.862642490714286

00:01:41.625 --> 00:01:43.737 introducing our speaker today.  
NOTE Confidence: 0.862642490714286

00:01:43.740 --> 00:01:44.796 For those of you don't know,  
NOTE Confidence: 0.862642490714286

00:01:44.800 --> 00:01:46.920 Doctor, Bam doctor Zubin Bam,  
NOTE Confidence: 0.862642490714286

00:01:46.920 --> 00:01:49.170 pulmonary critical care and sleep fellow  
NOTE Confidence: 0.862642490714286

00:01:49.170 --> 00:01:51.840 four years in the Norwalk and Yale.  
NOTE Confidence: 0.862642490714286

00:01:51.840 --> 00:01:55.104 System has been through a countless  
NOTE Confidence: 0.862642490714286

00:01:55.104 --> 00:01:58.618 number of COVID surges from 2020 to

NOTE Confidence: 0.862642490714286  
00:01:58.618 --> 00:02:01.980 at Yale last year and we really are.  
NOTE Confidence: 0.862642490714286  
00:02:01.980 --> 00:02:04.630 Just a happy to have him as a sleep fellow  
NOTE Confidence: 0.862642490714286  
00:02:04.696 --> 00:02:07.125 and he really has brought a tremendous  
NOTE Confidence: 0.862642490714286  
00:02:07.125 --> 00:02:09.370 amount of energy to our fellowship.  
NOTE Confidence: 0.862642490714286  
00:02:09.370 --> 00:02:11.610 Doctor Bam will be staying in the area,  
NOTE Confidence: 0.862642490714286  
00:02:11.610 --> 00:02:13.524 which were so fantastic to hear  
NOTE Confidence: 0.862642490714286  
00:02:13.524 --> 00:02:15.576 he'll be working within the Yale  
NOTE Confidence: 0.862642490714286  
00:02:15.576 --> 00:02:17.346 system at Bridgeport Hospital in  
NOTE Confidence: 0.862642490714286  
00:02:17.346 --> 00:02:19.238 Milford Hospital as a pulmonary  
NOTE Confidence: 0.862642490714286  
00:02:19.238 --> 00:02:21.148 critical care and sleep physician.  
NOTE Confidence: 0.862642490714286  
00:02:21.150 --> 00:02:22.810 And so I can go on and go on and talk  
NOTE Confidence: 0.862642490714286  
00:02:22.810 --> 00:02:24.469 about all the accolades for Doctor Ben,  
NOTE Confidence: 0.862642490714286  
00:02:24.470 --> 00:02:26.395 but I'll just give you one sentence  
NOTE Confidence: 0.862642490714286  
00:02:26.395 --> 00:02:27.987 that will kind of sum it up.  
NOTE Confidence: 0.862642490714286  
00:02:27.990 --> 00:02:30.605 He won the Norwalk Hospital  
NOTE Confidence: 0.862642490714286

00:02:30.605 --> 00:02:32.174 Board of directors.  
NOTE Confidence: 0.862642490714286

00:02:32.180 --> 00:02:34.796 Award last year for the most  
NOTE Confidence: 0.862642490714286

00:02:34.796 --> 00:02:37.042 outstanding resident or fellow in  
NOTE Confidence: 0.862642490714286

00:02:37.042 --> 00:02:39.137 in the entire Norwalk Hospital,  
NOTE Confidence: 0.862642490714286

00:02:39.140 --> 00:02:42.020 so he's well respected and he's going to  
NOTE Confidence: 0.862642490714286

00:02:42.020 --> 00:02:45.472 be a fantastic asset to the Bridgeport area,  
NOTE Confidence: 0.862642490714286

00:02:45.472 --> 00:02:48.060 so without a doubt without you know,  
NOTE Confidence: 0.862642490714286

00:02:48.060 --> 00:02:48.876 more accolades.  
NOTE Confidence: 0.862642490714286

00:02:48.876 --> 00:02:51.732 I'd like to present that through Bam,  
NOTE Confidence: 0.862642490714286

00:02:51.740 --> 00:02:54.364 who's going to be talking on not so  
NOTE Confidence: 0.862642490714286

00:02:54.364 --> 00:02:56.219 commonly recognized disorders of sleep,  
NOTE Confidence: 0.862642490714286

00:02:56.220 --> 00:02:58.468 associations of sleep disorders,  
NOTE Confidence: 0.862642490714286

00:02:58.468 --> 00:03:00.215 and, you know we were talking  
NOTE Confidence: 0.862642490714286

00:03:00.215 --> 00:03:01.780 about what to present here and we,  
NOTE Confidence: 0.862642490714286

00:03:01.780 --> 00:03:02.756 you know, we sort of said, hey,  
NOTE Confidence: 0.862642490714286

00:03:02.756 --> 00:03:03.464 listen, you know?

NOTE Confidence: 0.862642490714286

00:03:03.464 --> 00:03:05.689 I tell the fellows it's there and the medical

NOTE Confidence: 0.862642490714286

00:03:05.689 --> 00:03:07.467 students and all the people that rotate.

NOTE Confidence: 0.862642490714286

00:03:07.470 --> 00:03:08.830 There's basically four reasons

NOTE Confidence: 0.862642490714286

00:03:08.830 --> 00:03:10.870 why people come to see us.

NOTE Confidence: 0.862642490714286

00:03:10.870 --> 00:03:13.050 They're sleepy, they can't sleep.

NOTE Confidence: 0.862642490714286

00:03:13.050 --> 00:03:14.620 They have weird stuff happened

NOTE Confidence: 0.862642490714286

00:03:14.620 --> 00:03:16.190 to them during their sleep,

NOTE Confidence: 0.862642490714286

00:03:16.190 --> 00:03:18.746 or someone told them to see a sleep doctor.

NOTE Confidence: 0.862642490714286

00:03:18.750 --> 00:03:22.122 So this is sort of that sociation

NOTE Confidence: 0.862642490714286

00:03:22.122 --> 00:03:23.770 of sleep disorders talk,

NOTE Confidence: 0.862642490714286

00:03:23.770 --> 00:03:25.930 so I'll take it away, Doctor Bam.

NOTE Confidence: 0.7955880425

00:03:26.960 --> 00:03:29.496 Thank you so much Doctor Weir doctor Hilbert.

NOTE Confidence: 0.7955880425

00:03:29.500 --> 00:03:31.180 Hi guys and Doctor Bam I'm zoomin.

NOTE Confidence: 0.7955880425

00:03:31.180 --> 00:03:34.260 I'm one of the pulmonary sleep train

NOTE Confidence: 0.7955880425

00:03:34.260 --> 00:03:36.220 people at Norwalk bring you for seven

NOTE Confidence: 0.7955880425

00:03:36.220 --> 00:03:38.390 years now so it's been a long long time

NOTE Confidence: 0.7955880425

00:03:38.390 --> 00:03:40.377 here but I'm sad to stay in the area.

NOTE Confidence: 0.7955880425

00:03:40.380 --> 00:03:42.140 I'm originally Canadian like Doctor

NOTE Confidence: 0.7955880425

00:03:42.140 --> 00:03:45.021 Krieger and a lot of other people that

NOTE Confidence: 0.7955880425

00:03:45.021 --> 00:03:47.133 come to Norwalk and so Connecticut

NOTE Confidence: 0.7955880425

00:03:47.133 --> 00:03:49.058 has become my adopted state.

NOTE Confidence: 0.7955880425

00:03:49.060 --> 00:03:50.200 I guess home as well.

NOTE Confidence: 0.7955880425

00:03:50.200 --> 00:03:51.944 So what I wanted to do was kind

NOTE Confidence: 0.7955880425

00:03:51.944 --> 00:03:54.215 of focus on the not so commonly

NOTE Confidence: 0.7955880425

00:03:54.215 --> 00:03:55.635 recognized associations of sleep

NOTE Confidence: 0.7955880425

00:03:55.635 --> 00:03:57.517 disorders like Doctor Weir mentioned.

NOTE Confidence: 0.7955880425

00:03:57.520 --> 00:03:59.851 Those last two reasons that people see

NOTE Confidence: 0.7955880425

00:03:59.851 --> 00:04:02.238 us weird stuff happens when I sleep.

NOTE Confidence: 0.7955880425

00:04:02.240 --> 00:04:04.070 Somebody sent me here and kind

NOTE Confidence: 0.7955880425

00:04:04.070 --> 00:04:05.290 of focusing on that.

NOTE Confidence: 0.7955880425

00:04:05.290 --> 00:04:07.754 I just want to kind of go over



NOTE Confidence: 0.7955880425

00:04:07.760 --> 00:04:08.860 some disorders that are very,

NOTE Confidence: 0.7955880425

00:04:08.860 --> 00:04:09.458 very common,

NOTE Confidence: 0.7955880425

00:04:09.458 --> 00:04:10.953 but we don't normally associate

NOTE Confidence: 0.7955880425

00:04:10.953 --> 00:04:12.750 them with sleep disorders itself.

NOTE Confidence: 0.831306092857143

00:04:15.390 --> 00:04:19.268 And so this is the CME slide.

NOTE Confidence: 0.831306092857143

00:04:19.270 --> 00:04:20.796 I think this should be in your

NOTE Confidence: 0.831306092857143

00:04:20.796 --> 00:04:22.656 chat as well and I can bring it up

NOTE Confidence: 0.831306092857143

00:04:22.656 --> 00:04:24.436 after at the end of the talk for

NOTE Confidence: 0.831306092857143

00:04:24.436 --> 00:04:25.864 people that need need the code.

NOTE Confidence: 0.831306092857143

00:04:25.870 --> 00:04:27.822 And so today we'll go over different organ

NOTE Confidence: 0.831306092857143

00:04:27.822 --> 00:04:29.140 systems affected by sleep disorders.

NOTE Confidence: 0.831306092857143

00:04:29.140 --> 00:04:30.200 And they suspected pathophysiology.

NOTE Confidence: 0.831306092857143

00:04:30.200 --> 00:04:32.310 I was as I was making this talk.

NOTE Confidence: 0.831306092857143

00:04:32.310 --> 00:04:33.950 You know, you can take a really deep

NOTE Confidence: 0.831306092857143

00:04:33.950 --> 00:04:35.840 dive into sleep disorders and all the

NOTE Confidence: 0.831306092857143

00:04:35.840 --> 00:04:37.270 different organ systems they affect.  
NOTE Confidence: 0.831306092857143

00:04:37.270 --> 00:04:39.214 I kind of wanted to highlight  
NOTE Confidence: 0.831306092857143

00:04:39.214 --> 00:04:40.186 certain organ systems.  
NOTE Confidence: 0.831306092857143

00:04:40.190 --> 00:04:41.926 I'll make a brief mention of some  
NOTE Confidence: 0.831306092857143

00:04:41.926 --> 00:04:43.569 other ones at the end as well.  
NOTE Confidence: 0.831306092857143

00:04:43.570 --> 00:04:44.998 And then there'll be a lot of  
NOTE Confidence: 0.831306092857143

00:04:44.998 --> 00:04:46.739 a lot of proposed mechanisms.  
NOTE Confidence: 0.831306092857143

00:04:46.740 --> 00:04:49.089 A lot of reasons why we think this happens.  
NOTE Confidence: 0.831306092857143

00:04:49.090 --> 00:04:51.184 Obviously, as we evolve in Sleep  
NOTE Confidence: 0.831306092857143

00:04:51.184 --> 00:04:52.580 Medicine will know more.  
NOTE Confidence: 0.831306092857143

00:04:52.580 --> 00:04:54.232 We'll talk about the need to screen  
NOTE Confidence: 0.831306092857143

00:04:54.232 --> 00:04:55.655 for sleep disorders as a contributing  
NOTE Confidence: 0.831306092857143

00:04:55.655 --> 00:04:56.999 factor in a lot of different.  
NOTE Confidence: 0.831306092857143

00:04:57.000 --> 00:04:59.702 Z States and we'll talk about some  
NOTE Confidence: 0.831306092857143

00:04:59.702 --> 00:05:01.598 unique treatment options in this  
NOTE Confidence: 0.831306092857143

00:05:01.598 --> 00:05:03.602 in this group of patients that

NOTE Confidence: 0.831306092857143  
00:05:03.602 --> 00:05:05.515 have colored sleep disorders as  
NOTE Confidence: 0.831306092857143  
00:05:05.515 --> 00:05:07.480 well as other disease states.  
NOTE Confidence: 0.831306092857143  
00:05:07.480 --> 00:05:10.777 So Sleep Medicine itself continues to evolve.  
NOTE Confidence: 0.831306092857143  
00:05:10.780 --> 00:05:13.468 It's still considered to be in its infancy.  
NOTE Confidence: 0.831306092857143  
00:05:13.470 --> 00:05:15.440 Our screening continues to evolve.  
NOTE Confidence: 0.831306092857143  
00:05:15.440 --> 00:05:16.900 Our testing continues to evolve  
NOTE Confidence: 0.831306092857143  
00:05:16.900 --> 00:05:18.360 and then obviously the treatments  
NOTE Confidence: 0.831306092857143  
00:05:18.406 --> 00:05:19.616 continue to evolve as well.  
NOTE Confidence: 0.831306092857143  
00:05:19.620 --> 00:05:22.728 We've we've had so many treatments  
NOTE Confidence: 0.831306092857143  
00:05:22.728 --> 00:05:24.282 over the years.  
NOTE Confidence: 0.831306092857143  
00:05:24.290 --> 00:05:26.090 And and and as this continues  
NOTE Confidence: 0.831306092857143  
00:05:26.090 --> 00:05:28.040 to evolve as a specialty,  
NOTE Confidence: 0.831306092857143  
00:05:28.040 --> 00:05:29.936 we're recognizing that sleep plays a  
NOTE Confidence: 0.831306092857143  
00:05:29.936 --> 00:05:32.811 role in a lot of pathophysiology across  
NOTE Confidence: 0.831306092857143  
00:05:32.811 --> 00:05:35.528 different organ systems over the last decade,  
NOTE Confidence: 0.831306092857143

00:05:35.528 --> 00:05:37.764 we've had a lot of self specialties  
NOTE Confidence: 0.831306092857143

00:05:37.764 --> 00:05:40.266 in in within sleep itself emerge,  
NOTE Confidence: 0.831306092857143

00:05:40.270 --> 00:05:41.733 so we're most of us are pretty  
NOTE Confidence: 0.831306092857143

00:05:41.733 --> 00:05:42.820 familiar with sleep dentistry,  
NOTE Confidence: 0.831306092857143

00:05:42.820 --> 00:05:43.900 but the sleep cardiology,  
NOTE Confidence: 0.831306092857143

00:05:43.900 --> 00:05:45.420 the sleep, ophthalmology, sleep,  
NOTE Confidence: 0.831306092857143

00:05:45.420 --> 00:05:47.870 psychiatry, and even sleep urology,  
NOTE Confidence: 0.831306092857143

00:05:47.870 --> 00:05:51.022 and so they all deal with specific disease  
NOTE Confidence: 0.831306092857143

00:05:51.022 --> 00:05:53.364 states within their own organ system.  
NOTE Confidence: 0.831306092857143

00:05:53.364 --> 00:05:55.474 How they pertain to sleep?  
NOTE Confidence: 0.831306092857143

00:05:55.480 --> 00:05:58.252 And then the fact that all these  
NOTE Confidence: 0.831306092857143

00:05:58.252 --> 00:06:00.108 different sleep branches exist tells  
NOTE Confidence: 0.831306092857143

00:06:00.108 --> 00:06:01.844 us that there's a lot of interplay  
NOTE Confidence: 0.831306092857143

00:06:01.844 --> 00:06:03.327 between these organ systems and so  
NOTE Confidence: 0.831306092857143

00:06:03.327 --> 00:06:05.060 that's what we'll kind of talk about.  
NOTE Confidence: 0.831306092857143

00:06:05.060 --> 00:06:07.340 So jumping right into it, you know,

NOTE Confidence: 0.831306092857143  
00:06:07.340 --> 00:06:08.310 cardiovascular manifestations,  
NOTE Confidence: 0.831306092857143  
00:06:08.310 --> 00:06:09.280 sleep disorders.  
NOTE Confidence: 0.831306092857143  
00:06:09.280 --> 00:06:12.094 Most of us are pretty familiar with  
NOTE Confidence: 0.831306092857143  
00:06:12.094 --> 00:06:13.766 the adverse outcomes associated  
NOTE Confidence: 0.831306092857143  
00:06:13.766 --> 00:06:15.454 with untreated sleep apnea,  
NOTE Confidence: 0.831306092857143  
00:06:15.460 --> 00:06:17.200 so we know about hypertension  
NOTE Confidence: 0.831306092857143  
00:06:17.200 --> 00:06:17.896 resistant hypertension,  
NOTE Confidence: 0.831306092857143  
00:06:17.900 --> 00:06:19.560 the increased risk for stroke,  
NOTE Confidence: 0.831306092857143  
00:06:19.560 --> 00:06:20.724 arrhythmias, heart failure,  
NOTE Confidence: 0.831306092857143  
00:06:20.724 --> 00:06:23.440 the data still out back and forth.  
NOTE Confidence: 0.831306092857143  
00:06:23.440 --> 00:06:24.480 It seems to be maybe.  
NOTE Confidence: 0.831306092857143  
00:06:24.480 --> 00:06:25.855 Laser roll and diastolic heart  
NOTE Confidence: 0.831306092857143  
00:06:25.855 --> 00:06:27.230 failure or heart failure preserved.  
NOTE Confidence: 0.831306092857143  
00:06:27.230 --> 00:06:29.646 EF not so much with systolic heart failure,  
NOTE Confidence: 0.831306092857143  
00:06:29.650 --> 00:06:32.344 but we know systolic heart failure  
NOTE Confidence: 0.831306092857143

00:06:32.344 --> 00:06:34.850 can cause sleep issues and CAD.  
NOTE Confidence: 0.831306092857143

00:06:34.850 --> 00:06:38.306 What I wanted to focus on was a very  
NOTE Confidence: 0.831306092857143

00:06:38.306 --> 00:06:39.929 unique topic within cardiovascular  
NOTE Confidence: 0.831306092857143

00:06:39.929 --> 00:06:41.994 system that we don't really  
NOTE Confidence: 0.831306092857143

00:06:41.994 --> 00:06:43.609 commonly associate or know about  
NOTE Confidence: 0.831306092857143

00:06:43.610 --> 00:06:46.067 and these are both real cases that  
NOTE Confidence: 0.831306092857143

00:06:46.067 --> 00:06:47.938 I've had during my sleep year.  
NOTE Confidence: 0.831306092857143

00:06:47.938 --> 00:06:48.814 As a fellow.  
NOTE Confidence: 0.831306092857143

00:06:48.820 --> 00:06:50.668 And so we'll start off with this one.  
NOTE Confidence: 0.831306092857143

00:06:50.670 --> 00:06:52.460 It's a 26 year old male that came to us.  
NOTE Confidence: 0.679101387

00:06:58.010 --> 00:07:01.838 And you. Umm? So excessive daytime  
NOTE Confidence: 0.679101387

00:07:01.838 --> 00:07:04.390 sleepiness and vivid dreaming,  
NOTE Confidence: 0.679101387

00:07:04.390 --> 00:07:06.494 it was a value for the sleepiness as  
NOTE Confidence: 0.679101387

00:07:06.494 --> 00:07:08.643 a teenager underwent the PSG and MSLT  
NOTE Confidence: 0.679101387

00:07:08.643 --> 00:07:10.830 that showed the diagnosis are confirmed.  
NOTE Confidence: 0.679101387

00:07:10.830 --> 00:07:12.654 The diagnosis of narcolepsy at the

NOTE Confidence: 0.679101387

00:07:12.654 --> 00:07:14.805 time the parents chose to manage the

NOTE Confidence: 0.679101387

00:07:14.805 --> 00:07:16.563 disease with just schedule maps avoid

NOTE Confidence: 0.679101387

00:07:16.563 --> 00:07:18.730 any medications which is not uncommon,

NOTE Confidence: 0.679101387

00:07:18.730 --> 00:07:20.218 especially when you tell them about

NOTE Confidence: 0.679101387

00:07:20.218 --> 00:07:22.139 ziron zywave and the potential for abuse,

NOTE Confidence: 0.679101387

00:07:22.140 --> 00:07:24.609 yadda yadda yadda.

NOTE Confidence: 0.679101387

00:07:24.610 --> 00:07:26.577 He gets older, realizes that you know

NOTE Confidence: 0.679101387

00:07:26.577 --> 00:07:29.286 he's able to get through high school college,

NOTE Confidence: 0.679101387

00:07:29.290 --> 00:07:31.050 but now he's finding it really, really hard.

NOTE Confidence: 0.679101387

00:07:31.050 --> 00:07:32.730 It's hard to take schedule Naps,

NOTE Confidence: 0.679101387

00:07:32.730 --> 00:07:33.906 where as an adult,

NOTE Confidence: 0.679101387

00:07:33.906 --> 00:07:35.670 which I'm finding out now with.

NOTE Confidence: 0.679101387

00:07:35.670 --> 00:07:39.286 With that with the House and the baby.

NOTE Confidence: 0.679101387

00:07:39.290 --> 00:07:40.714 And it's hard to function during the day,

NOTE Confidence: 0.679101387

00:07:40.720 --> 00:07:42.456 and so he's unable to have a social

NOTE Confidence: 0.679101387

00:07:42.456 --> 00:07:44.152 life and so comes back to us and  
NOTE Confidence: 0.679101387

00:07:44.152 --> 00:07:45.900 says I still have this this problem,  
NOTE Confidence: 0.679101387

00:07:45.900 --> 00:07:47.406 you know, and I was diagnosed  
NOTE Confidence: 0.679101387

00:07:47.406 --> 00:07:48.920 with narcolepsy as a teenager.  
NOTE Confidence: 0.679101387

00:07:48.920 --> 00:07:49.940 But in addition to that,  
NOTE Confidence: 0.679101387

00:07:49.940 --> 00:07:50.676 I'm starting to notice,  
NOTE Confidence: 0.679101387

00:07:50.676 --> 00:07:51.780 you know a couple other things.  
NOTE Confidence: 0.679101387

00:07:51.780 --> 00:07:54.180 Light sensitivity, cold intolerance,  
NOTE Confidence: 0.679101387

00:07:54.180 --> 00:07:55.380 some Lightheadedness.  
NOTE Confidence: 0.679101387

00:07:55.380 --> 00:07:57.620 I feel really lightheaded and dizzy when I  
NOTE Confidence: 0.679101387

00:07:57.620 --> 00:08:01.200 stand up too quickly or after working out.  
NOTE Confidence: 0.679101387

00:08:01.200 --> 00:08:03.868 So that's case one.  
NOTE Confidence: 0.679101387

00:08:03.870 --> 00:08:04.824 The next case,  
NOTE Confidence: 0.679101387

00:08:04.824 --> 00:08:06.732 also something that we saw in  
NOTE Confidence: 0.679101387

00:08:06.732 --> 00:08:08.279 in our sleep clinic.  
NOTE Confidence: 0.679101387

00:08:08.280 --> 00:08:09.852 31 year old woman diagnosed with



NOTE Confidence: 0.679101387

00:08:09.852 --> 00:08:11.832 the history are coming in with the

NOTE Confidence: 0.679101387

00:08:11.832 --> 00:08:13.307 issue of excessive daytime sleepiness

NOTE Confidence: 0.679101387

00:08:13.307 --> 00:08:14.710 and multiple fainting spells,

NOTE Confidence: 0.679101387

00:08:14.710 --> 00:08:16.733 so she came in for an evaluation

NOTE Confidence: 0.679101387

00:08:16.733 --> 00:08:19.010 and her sleep studies confirmed the

NOTE Confidence: 0.679101387

00:08:19.010 --> 00:08:21.250 diagnosis or suggested a diagnosis.

NOTE Confidence: 0.679101387

00:08:21.250 --> 00:08:22.620 Geopathic hypersomnia.

NOTE Confidence: 0.679101387

00:08:22.620 --> 00:08:25.712 Our biggest complaint or issue

NOTE Confidence: 0.679101387

00:08:25.712 --> 00:08:27.120 was her daytime sleepiness,

NOTE Confidence: 0.679101387

00:08:27.120 --> 00:08:30.184 and so she was started on treatment with

NOTE Confidence: 0.679101387

00:08:30.184 --> 00:08:31.960 Adderall and she had some improvement,

NOTE Confidence: 0.679101387

00:08:31.960 --> 00:08:33.100 but it wasn't isn't.

NOTE Confidence: 0.679101387

00:08:33.100 --> 00:08:34.810 It wasn't quite good enough for

NOTE Confidence: 0.679101387

00:08:34.868 --> 00:08:36.380 her and she was still requiring

NOTE Confidence: 0.679101387

00:08:36.380 --> 00:08:38.380 a lot of sleep during the night.

NOTE Confidence: 0.679101387

00:08:38.380 --> 00:08:39.892 On the weekend she would even  
NOTE Confidence: 0.679101387

00:08:39.892 --> 00:08:41.755 take naps during the day and so  
NOTE Confidence: 0.679101387

00:08:41.755 --> 00:08:43.090 ultimately between COVID and the  
NOTE Confidence: 0.679101387

00:08:43.090 --> 00:08:44.790 amount of sleep she's requiring.  
NOTE Confidence: 0.679101387

00:08:44.790 --> 00:08:46.482 She realized that working from home  
NOTE Confidence: 0.679101387

00:08:46.482 --> 00:08:48.568 would be the best solution for her.  
NOTE Confidence: 0.679101387

00:08:48.570 --> 00:08:50.490 We continue to see her in follow up  
NOTE Confidence: 0.679101387

00:08:50.490 --> 00:08:52.710 and in the interim we found out that  
NOTE Confidence: 0.679101387

00:08:52.710 --> 00:08:54.794 she had been tested for idiopathic  
NOTE Confidence: 0.679101387

00:08:54.794 --> 00:08:57.054 gastroparesis and was referred for  
NOTE Confidence: 0.679101387

00:08:57.054 --> 00:08:58.936 autonomic dysfunction testing and  
NOTE Confidence: 0.679101387

00:08:58.936 --> 00:09:01.566 ultimately going down this pathway.  
NOTE Confidence: 0.679101387

00:09:01.570 --> 00:09:03.964 She had tilttable testing perform and  
NOTE Confidence: 0.679101387

00:09:03.964 --> 00:09:07.060 it confirmed the diagnosis of pots or  
NOTE Confidence: 0.679101387

00:09:07.060 --> 00:09:08.976 postural orthostatic tachycardia syndrome.  
NOTE Confidence: 0.679101387

00:09:08.980 --> 00:09:11.476 And so autonomic dysfunction in narcolepsy,

NOTE Confidence: 0.679101387

00:09:11.480 --> 00:09:13.034 something that is very very well known

NOTE Confidence: 0.679101387

00:09:13.034 --> 00:09:15.053 as I was doing my research on this has

NOTE Confidence: 0.679101387

00:09:15.053 --> 00:09:16.918 been known for a couple of years now,

NOTE Confidence: 0.679101387

00:09:16.920 --> 00:09:18.654 but it's not something that we

NOTE Confidence: 0.679101387

00:09:18.654 --> 00:09:20.480 routinely look for or screen for,

NOTE Confidence: 0.679101387

00:09:20.480 --> 00:09:22.881 and this is a couple of the

NOTE Confidence: 0.679101387

00:09:22.881 --> 00:09:25.040 manifestations of the disease itself.

NOTE Confidence: 0.679101387

00:09:25.040 --> 00:09:27.200 So Rexin is implicated in

NOTE Confidence: 0.679101387

00:09:27.200 --> 00:09:28.496 various physiologic functions,

NOTE Confidence: 0.679101387

00:09:28.500 --> 00:09:29.760 sleep break regulation,

NOTE Confidence: 0.679101387

00:09:29.760 --> 00:09:31.860 and they actually has orexins

NOTE Confidence: 0.679101387

00:09:31.860 --> 00:09:33.602 been implicated and actually

NOTE Confidence: 0.679101387

00:09:33.602 --> 00:09:34.859 controlling autonomic regulation

NOTE Confidence: 0.679101387

00:09:34.859 --> 00:09:37.060 as we are asleep and narcolepsy,

NOTE Confidence: 0.679101387

00:09:37.060 --> 00:09:38.880 we have a deficiency of orexin and

NOTE Confidence: 0.679101387

00:09:38.880 --> 00:09:40.516 so you can see a lot of these.  
NOTE Confidence: 0.679101387

00:09:40.520 --> 00:09:42.604 Patients will have abnormal  
NOTE Confidence: 0.679101387

00:09:42.604 --> 00:09:44.182 sympathetic activation during sleep.  
NOTE Confidence: 0.679101387

00:09:44.182 --> 00:09:45.512 They can have non dipper  
NOTE Confidence: 0.679101387

00:09:45.512 --> 00:09:46.310 blood pressure profile.  
NOTE Confidence: 0.781627325

00:09:46.310 --> 00:09:48.206 They can have heart rate variability.  
NOTE Confidence: 0.781627325

00:09:48.210 --> 00:09:50.040 They can have abnormal pupillary function  
NOTE Confidence: 0.781627325

00:09:50.040 --> 00:09:52.230 leading to some light sensitivity issues.  
NOTE Confidence: 0.781627325

00:09:52.230 --> 00:09:54.970 They can erect all dysfunction,  
NOTE Confidence: 0.781627325

00:09:54.970 --> 00:09:56.446 fainting spells, orthostasis as  
NOTE Confidence: 0.781627325

00:09:56.446 --> 00:09:58.660 well as heat or cold intolerance.  
NOTE Confidence: 0.781627325

00:09:58.660 --> 00:10:01.716 All in all, what this adds to  
NOTE Confidence: 0.781627325

00:10:01.716 --> 00:10:03.432 this complex group of patients is  
NOTE Confidence: 0.781627325

00:10:03.432 --> 00:10:05.855 that even if we treat their sleep  
NOTE Confidence: 0.781627325

00:10:05.855 --> 00:10:07.735 disorders and their sleep complaints,  
NOTE Confidence: 0.781627325

00:10:07.740 --> 00:10:10.348 if we don't really address or recognize the

NOTE Confidence: 0.781627325

00:10:10.348 --> 00:10:11.959 autonomic dysfunction in these patients.

NOTE Confidence: 0.781627325

00:10:11.960 --> 00:10:14.120 They can continue to feel pretty

NOTE Confidence: 0.781627325

00:10:14.120 --> 00:10:16.260 crummy and not feel so great.

NOTE Confidence: 0.781627325

00:10:16.260 --> 00:10:18.550 And and so we're essentially

NOTE Confidence: 0.781627325

00:10:18.550 --> 00:10:19.924 partially treating them.

NOTE Confidence: 0.781627325

00:10:19.930 --> 00:10:21.274 I don't know what those functions

NOTE Confidence: 0.781627325

00:10:21.274 --> 00:10:22.170 also been known to.

NOTE Confidence: 0.781627325

00:10:22.170 --> 00:10:24.325 Current idiopathic hypersomnia and more

NOTE Confidence: 0.781627325

00:10:24.325 --> 00:10:27.130 recognized as pots in these patients,

NOTE Confidence: 0.781627325

00:10:27.130 --> 00:10:29.326 and so autonomic nervous system dysfunction.

NOTE Confidence: 0.781627325

00:10:29.330 --> 00:10:30.958 NIH is commonly represents

NOTE Confidence: 0.781627325

00:10:30.958 --> 00:10:32.179 with resting tachycardia,

NOTE Confidence: 0.781627325

00:10:32.180 --> 00:10:32.844 orthostatic intolerance,

NOTE Confidence: 0.781627325

00:10:32.844 --> 00:10:35.168 and so there's been a couple of

NOTE Confidence: 0.781627325

00:10:35.168 --> 00:10:36.882 studies looking at this autonomic

NOTE Confidence: 0.781627325

00:10:36.882 --> 00:10:38.542 dysfunction burden in patients with  
NOTE Confidence: 0.781627325

00:10:38.542 --> 00:10:40.579 IH and I'll talk about you scoring  
NOTE Confidence: 0.781627325

00:10:40.579 --> 00:10:42.253 systems that are used commonly,  
NOTE Confidence: 0.781627325

00:10:42.253 --> 00:10:45.118 so composite autonomic symptoms score,  
NOTE Confidence: 0.781627325

00:10:45.120 --> 00:10:47.612 which is the compass 31 and the  
NOTE Confidence: 0.781627325

00:10:47.612 --> 00:10:49.706 scope of the UT, which are two.  
NOTE Confidence: 0.781627325

00:10:49.706 --> 00:10:50.866 How many used screening tools  
NOTE Confidence: 0.781627325

00:10:50.866 --> 00:10:51.889 for I don't know.  
NOTE Confidence: 0.781627325

00:10:51.890 --> 00:10:54.182 Dysfunction have been shown  
NOTE Confidence: 0.781627325

00:10:54.182 --> 00:10:57.047 in both narcolepsy and IH.  
NOTE Confidence: 0.781627325

00:10:57.050 --> 00:10:58.658 To cause autonomic dysfunction.  
NOTE Confidence: 0.781627325

00:10:58.658 --> 00:11:01.070 Typically if you just have a  
NOTE Confidence: 0.781627325

00:11:01.140 --> 00:11:02.948 patient with isolated pots,  
NOTE Confidence: 0.781627325

00:11:02.950 --> 00:11:04.206 they typically will have  
NOTE Confidence: 0.781627325

00:11:04.206 --> 00:11:05.148 complaints of insomnia,  
NOTE Confidence: 0.781627325

00:11:05.150 --> 00:11:06.932 poor sleep efficiency if you study

NOTE Confidence: 0.781627325

00:11:06.932 --> 00:11:08.470 them on a polysomnography study,

NOTE Confidence: 0.781627325

00:11:08.470 --> 00:11:10.090 test patients with.

NOTE Confidence: 0.781627325

00:11:10.090 --> 00:11:10.630 I,

NOTE Confidence: 0.781627325

00:11:10.630 --> 00:11:11.170 however,

NOTE Confidence: 0.781627325

00:11:11.170 --> 00:11:14.476 have great sleep efficiency as diagnosed

NOTE Confidence: 0.781627325

00:11:14.476 --> 00:11:17.714 by their increased sleep drive and

NOTE Confidence: 0.781627325

00:11:17.714 --> 00:11:19.372 also present very interestingly

NOTE Confidence: 0.781627325

00:11:19.372 --> 00:11:21.479 and so it's important for us to

NOTE Confidence: 0.781627325

00:11:21.479 --> 00:11:23.059 recognize that these patients can

NOTE Confidence: 0.781627325

00:11:23.059 --> 00:11:24.589 have these coronary conditions and

NOTE Confidence: 0.781627325

00:11:24.589 --> 00:11:26.531 we can take care of the sleep issues

NOTE Confidence: 0.781627325

00:11:26.531 --> 00:11:28.668 if we don't address the patient.

NOTE Confidence: 0.781627325

00:11:28.668 --> 00:11:29.154 Completely,

NOTE Confidence: 0.781627325

00:11:29.154 --> 00:11:32.070 they continue to feel pretty measurable.

NOTE Confidence: 0.781627325

00:11:32.070 --> 00:11:33.894 When I was doing preparing for this talk,

NOTE Confidence: 0.781627325

00:11:33.900 --> 00:11:35.652 it also came across as this  
NOTE Confidence: 0.781627325

00:11:35.652 --> 00:11:37.212 interesting fact that 33 patient  
NOTE Confidence: 0.781627325

00:11:37.212 --> 00:11:39.186 of pots had diagnosed with Eller,  
NOTE Confidence: 0.781627325

00:11:39.190 --> 00:11:39.874 Danlos, hypermobility,  
NOTE Confidence: 0.781627325

00:11:39.874 --> 00:11:40.216 subtype,  
NOTE Confidence: 0.781627325

00:11:40.216 --> 00:11:43.390 which we know is a risk factor for feedback,  
NOTE Confidence: 0.781627325

00:11:43.390 --> 00:11:43.918 you know,  
NOTE Confidence: 0.781627325

00:11:43.918 --> 00:11:46.030 and so it's something to keep in the  
NOTE Confidence: 0.781627325

00:11:46.088 --> 00:11:48.152 back of our mind as patients with IH  
NOTE Confidence: 0.781627325

00:11:48.152 --> 00:11:50.218 and POTS can also have sleep apnea,  
NOTE Confidence: 0.781627325

00:11:50.220 --> 00:11:51.584 just increasing the overall  
NOTE Confidence: 0.781627325

00:11:51.584 --> 00:11:52.948 disease burden and complexity  
NOTE Confidence: 0.781627325

00:11:52.948 --> 00:11:54.757 of taking care of these people.  
NOTE Confidence: 0.781627325

00:11:54.760 --> 00:11:55.680 And so like I mentioned,  
NOTE Confidence: 0.781627325

00:11:55.680 --> 00:11:57.960 there's a couple ways to measure  
NOTE Confidence: 0.781627325

00:11:57.960 --> 00:11:59.100 automatic Ness dysfunction.



NOTE Confidence: 0.781627325

00:11:59.100 --> 00:12:02.205 The scope by UT is a well validated study.

NOTE Confidence: 0.781627325

00:12:02.210 --> 00:12:05.488 Used in a lot of synucleinopathies most

NOTE Confidence: 0.781627325

00:12:05.488 --> 00:12:08.002 commonly in Parkinson's to measure the

NOTE Confidence: 0.781627325

00:12:08.002 --> 00:12:09.870 autonomic burden in these patients.

NOTE Confidence: 0.781627325

00:12:09.870 --> 00:12:12.486 And it's a 30 question screening

NOTE Confidence: 0.781627325

00:12:12.486 --> 00:12:14.977 questionnaire that kind of addresses

NOTE Confidence: 0.781627325

00:12:14.977 --> 00:12:17.750 different domains similar to the Compass 31,

NOTE Confidence: 0.781627325

00:12:17.750 --> 00:12:19.260 which looks at 6 different

NOTE Confidence: 0.781627325

00:12:19.260 --> 00:12:20.166 domains including security,

NOTE Confidence: 0.781627325

00:12:20.170 --> 00:12:22.910 motor, vasomotor pupil, motor GI,

NOTE Confidence: 0.781627325

00:12:22.910 --> 00:12:24.642 orthostatic, and neurologic function,

NOTE Confidence: 0.781627325

00:12:24.642 --> 00:12:27.240 and determines the amount of burden

NOTE Confidence: 0.781627325

00:12:27.308 --> 00:12:29.268 that these patients have when

NOTE Confidence: 0.781627325

00:12:29.268 --> 00:12:31.228 dealing with the autonomic symptoms.

NOTE Confidence: 0.781627325

00:12:31.230 --> 00:12:32.694 And so this was an interesting

NOTE Confidence: 0.781627325

00:12:32.694 --> 00:12:33.670 study out of France.  
NOTE Confidence: 0.781627325

00:12:33.670 --> 00:12:35.734 It looked at the autonomic dysfunction  
NOTE Confidence: 0.781627325

00:12:35.734 --> 00:12:37.999 burden in patients with narcolepsy one.  
NOTE Confidence: 0.781627325

00:12:38.000 --> 00:12:39.890 So what they wanted to do?  
NOTE Confidence: 0.781627325

00:12:39.890 --> 00:12:41.600 Who's looking at a group of  
NOTE Confidence: 0.781627325

00:12:41.600 --> 00:12:43.120 patients that had narcolepsy 1  
NOTE Confidence: 0.781627325

00:12:43.120 --> 00:12:44.404 formally diagnosed and compared  
NOTE Confidence: 0.781627325

00:12:44.404 --> 00:12:46.009 them to control patients that  
NOTE Confidence: 0.735330865333333

00:12:46.066 --> 00:12:48.238 were otherwise healthy and compared the  
NOTE Confidence: 0.735330865333333

00:12:48.238 --> 00:12:50.266 amount of autonomic dysfunction in these  
NOTE Confidence: 0.735330865333333

00:12:50.266 --> 00:12:52.282 patients as measured by the compass 30  
NOTE Confidence: 0.735330865333333

00:12:52.282 --> 00:12:54.113 scope by UT sorry and then the other  
NOTE Confidence: 0.735330865333333

00:12:54.113 --> 00:12:56.326 to do is look back at these patients.  
NOTE Confidence: 0.735330865333333

00:12:56.330 --> 00:12:58.906 Treat them for narcolepsy and see if  
NOTE Confidence: 0.735330865333333

00:12:58.906 --> 00:13:00.922 the disease, the autonomic symptom.  
NOTE Confidence: 0.735330865333333

00:13:00.922 --> 00:13:03.890 Dysfunction symptom burden went up or down

NOTE Confidence: 0.735330865333333  
00:13:03.955 --> 00:13:06.625 when the narcolepsy was actually treated.  
NOTE Confidence: 0.735330865333333  
00:13:06.630 --> 00:13:08.530 And so they actually  
NOTE Confidence: 0.735330865333333  
00:13:08.530 --> 00:13:10.430 looked at these patients.  
NOTE Confidence: 0.735330865333333  
00:13:10.430 --> 00:13:13.148 And they all authority confirmed narcolepsy,  
NOTE Confidence: 0.735330865333333  
00:13:13.150 --> 00:13:15.346 either by PSG MSLT showing a  
NOTE Confidence: 0.735330865333333  
00:13:15.346 --> 00:13:17.752 sleep lensey less than 8 minutes  
NOTE Confidence: 0.735330865333333  
00:13:17.752 --> 00:13:19.907 combined with two Sorin periods,  
NOTE Confidence: 0.735330865333333  
00:13:19.910 --> 00:13:22.466 or CSF orexin level less than 110.  
NOTE Confidence: 0.735330865333333  
00:13:22.466 --> 00:13:24.362 Now keep in mind that this  
NOTE Confidence: 0.735330865333333  
00:13:24.362 --> 00:13:26.328 study was based out of France,  
NOTE Confidence: 0.735330865333333  
00:13:26.330 --> 00:13:28.406 and so the medications used to  
NOTE Confidence: 0.735330865333333  
00:13:28.406 --> 00:13:30.222 treat narcolepsy in the study  
NOTE Confidence: 0.735330865333333  
00:13:30.222 --> 00:13:31.494 were almost 95% stock.  
NOTE Confidence: 0.735330865333333  
00:13:31.494 --> 00:13:33.126 Your stimulus to keep the patient  
NOTE Confidence: 0.735330865333333  
00:13:33.126 --> 00:13:34.908 awake so would affinal methylphenidate  
NOTE Confidence: 0.735330865333333

00:13:34.908 --> 00:13:36.510 or patellar send sodium.  
NOTE Confidence: 0.735330865333333  
00:13:36.510 --> 00:13:38.608 Oxybate was only about 22%  
NOTE Confidence: 0.735330865333333  
00:13:38.608 --> 00:13:40.280 and then anti cataplectic.  
NOTE Confidence: 0.735330865333333  
00:13:40.280 --> 00:13:43.082 Medications like SSRI SNRI were used  
NOTE Confidence: 0.735330865333333  
00:13:43.082 --> 00:13:46.140 in about 50% of the patients with NT.  
NOTE Confidence: 0.735330865333333  
00:13:46.140 --> 00:13:49.150 One or narcolepsy tech one.  
NOTE Confidence: 0.735330865333333  
00:13:49.150 --> 00:13:50.630 This is the baseline demographic  
NOTE Confidence: 0.735330865333333  
00:13:50.630 --> 00:13:52.408 data for these patients and what  
NOTE Confidence: 0.735330865333333  
00:13:52.408 --> 00:13:53.848 I wanted to point out really,  
NOTE Confidence: 0.735330865333333  
00:13:53.850 --> 00:13:55.750 is that compared to controls,  
NOTE Confidence: 0.735330865333333  
00:13:55.750 --> 00:13:57.405 patients with narcolepsy type 1  
NOTE Confidence: 0.735330865333333  
00:13:57.405 --> 00:13:59.717 tending to be more wise so there  
NOTE Confidence: 0.735330865333333  
00:13:59.717 --> 00:14:01.782 BMI greater than 30 was much more  
NOTE Confidence: 0.735330865333333  
00:14:01.782 --> 00:14:03.528 common in the NT one patients,  
NOTE Confidence: 0.735330865333333  
00:14:03.530 --> 00:14:05.497 and they also happen to have more  
NOTE Confidence: 0.735330865333333  
00:14:05.497 --> 00:14:07.188 disability and compared to the controls,

NOTE Confidence: 0.735330865333333  
00:14:07.190 --> 00:14:09.026 which is not surprising.  
NOTE Confidence: 0.735330865333333  
00:14:09.026 --> 00:14:12.120 We know that poor sleep leads to.  
NOTE Confidence: 0.735330865333333  
00:14:12.120 --> 00:14:14.480 Increase.  
NOTE Confidence: 0.735330865333333  
00:14:14.480 --> 00:14:17.850 Appetite increase kind of cravings  
NOTE Confidence: 0.735330865333333  
00:14:17.850 --> 00:14:19.198 for carbohydrates.  
NOTE Confidence: 0.735330865333333  
00:14:19.200 --> 00:14:21.016 As most of us will know after working  
NOTE Confidence: 0.735330865333333  
00:14:21.016 --> 00:14:23.090 on call shift what we crave mostly  
NOTE Confidence: 0.735330865333333  
00:14:23.090 --> 00:14:24.655 carbohydrate so it's not surprising  
NOTE Confidence: 0.735330865333333  
00:14:24.710 --> 00:14:26.621 but that was kind of the baseline  
NOTE Confidence: 0.735330865333333  
00:14:26.621 --> 00:14:28.098 demographic data for these patients.  
NOTE Confidence: 0.735330865333333  
00:14:28.098 --> 00:14:30.401 Then they got into the actual scope  
NOTE Confidence: 0.735330865333333  
00:14:30.401 --> 00:14:32.441 ET questionnaire and so you can  
NOTE Confidence: 0.735330865333333  
00:14:32.441 --> 00:14:34.565 see that it's it's broken down  
NOTE Confidence: 0.735330865333333  
00:14:34.565 --> 00:14:36.635 by actual different organ systems  
NOTE Confidence: 0.735330865333333  
00:14:36.635 --> 00:14:38.638 and the autonomic dysfunction that  
NOTE Confidence: 0.735330865333333

00:14:38.638 --> 00:14:40.666 can be precipitated and what I've  
NOTE Confidence: 0.735330865333333

00:14:40.666 --> 00:14:42.774 highlighted here in blue are the  
NOTE Confidence: 0.735330865333333

00:14:42.774 --> 00:14:44.489 organisms that were not different.  
NOTE Confidence: 0.735330865333333

00:14:44.490 --> 00:14:46.362 Between the two groups,  
NOTE Confidence: 0.735330865333333

00:14:46.362 --> 00:14:49.890 so everything else 15 out of the 25.  
NOTE Confidence: 0.735330865333333

00:14:49.890 --> 00:14:51.171 We're actually statistically  
NOTE Confidence: 0.735330865333333

00:14:51.171 --> 00:14:53.306 significant in the narcolepsy group,  
NOTE Confidence: 0.735330865333333

00:14:53.310 --> 00:14:54.405 so more drooling,  
NOTE Confidence: 0.735330865333333

00:14:54.405 --> 00:14:56.595 more GI symptoms such as Constipation,  
NOTE Confidence: 0.735330865333333

00:14:56.600 --> 00:14:59.392 abdominal fullness, fecal incontinence,  
NOTE Confidence: 0.735330865333333

00:14:59.392 --> 00:15:03.310 urinary symptoms, not to urea,  
NOTE Confidence: 0.735330865333333

00:15:03.310 --> 00:15:04.150 Lightheadedness,  
NOTE Confidence: 0.735330865333333

00:15:04.150 --> 00:15:04.990 hyperhidrosis,  
NOTE Confidence: 0.735330865333333

00:15:04.990 --> 00:15:06.798 oversensitivity to light temperature  
NOTE Confidence: 0.735330865333333

00:15:06.798 --> 00:15:09.510 and tolerance for all more common  
NOTE Confidence: 0.735330865333333

00:15:09.582 --> 00:15:11.070 in the narcolepsy type.

NOTE Confidence: 0.735330865333333

00:15:11.070 --> 00:15:12.862 One patients compared to

NOTE Confidence: 0.735330865333333

00:15:12.862 --> 00:15:14.206 the control patients,

NOTE Confidence: 0.735330865333333

00:15:14.210 --> 00:15:15.394 which is pretty significant.

NOTE Confidence: 0.735330865333333

00:15:15.394 --> 00:15:17.170 Then they went back and said,

NOTE Confidence: 0.735330865333333

00:15:17.170 --> 00:15:18.665 well, let's treat these patients

NOTE Confidence: 0.735330865333333

00:15:18.665 --> 00:15:20.690 and see if treating them improves.

NOTE Confidence: 0.735330865333333

00:15:20.690 --> 00:15:24.440 Or diminishes the autonomic dysfunction

NOTE Confidence: 0.735330865333333

00:15:24.440 --> 00:15:26.267 burden, and so these are the drug

NOTE Confidence: 0.735330865333333

00:15:26.267 --> 00:15:27.679 free patients in this group.

NOTE Confidence: 0.735330865333333

00:15:27.680 --> 00:15:28.710 And these are the treated

NOTE Confidence: 0.735330865333333

00:15:28.710 --> 00:15:29.534 patients and the drugs.

NOTE Confidence: 0.735330865333333

00:15:29.540 --> 00:15:31.580 We talked about that we used to treat.

NOTE Confidence: 0.735330865333333

00:15:31.580 --> 00:15:33.620 And what's interesting here is regardless

NOTE Confidence: 0.735330865333333

00:15:33.620 --> 00:15:35.799 of the treatment that they received.

NOTE Confidence: 0.735330865333333

00:15:35.800 --> 00:15:37.970 None of them really had an improvement

NOTE Confidence: 0.735330865333333

00:15:37.970 --> 00:15:39.939 in their autonomic dysfunction score,  
NOTE Confidence: 0.735330865333333

00:15:39.940 --> 00:15:41.676 so the treatment itself didn't really get  
NOTE Confidence: 0.735330865333333

00:15:41.676 --> 00:15:43.950 rid of the dysautonomia in these patients,  
NOTE Confidence: 0.735330865333333

00:15:43.950 --> 00:15:45.474 which is important because a lot  
NOTE Confidence: 0.735330865333333

00:15:45.474 --> 00:15:46.920 of times the question becomes,  
NOTE Confidence: 0.735330865333333

00:15:46.920 --> 00:15:48.288 well, chicken and the egg, right?  
NOTE Confidence: 0.735330865333333

00:15:48.288 --> 00:15:50.976 That the narcolepsy or IH led  
NOTE Confidence: 0.735330865333333

00:15:50.976 --> 00:15:52.320 to the autonomic  
NOTE Confidence: 0.614042684545455

00:15:52.405 --> 00:15:53.420 dysfunction?  
NOTE Confidence: 0.614042684545455

00:15:53.420 --> 00:15:55.639 Or did it occur independently of it?  
NOTE Confidence: 0.614042684545455

00:15:55.640 --> 00:15:57.495 And based on this study you know  
NOTE Confidence: 0.614042684545455

00:15:57.495 --> 00:15:59.510 it would seem like it occurred  
NOTE Confidence: 0.614042684545455

00:15:59.510 --> 00:16:01.054 independently just because treating  
NOTE Confidence: 0.614042684545455

00:16:01.054 --> 00:16:03.659 one didn't get rid of the dysautonomia.  
NOTE Confidence: 0.614042684545455

00:16:03.660 --> 00:16:04.398 That being said,  
NOTE Confidence: 0.614042684545455

00:16:04.398 --> 00:16:06.370 a lot of these medications that we use.



NOTE Confidence: 0.614042684545455  
00:16:06.370 --> 00:16:10.240 To treat autonomic dysfunction in narcolepsy.  
NOTE Confidence: 0.614042684545455  
00:16:10.240 --> 00:16:11.990 Will cause out of dysfunction in some.  
NOTE Confidence: 0.614042684545455  
00:16:11.990 --> 00:16:13.554 The stimulants themselves can  
NOTE Confidence: 0.614042684545455  
00:16:13.554 --> 00:16:15.118 cause some autonomic dysfunction.  
NOTE Confidence: 0.614042684545455  
00:16:15.120 --> 00:16:20.180 The SSRI is the SNRI's so it's hard to say.  
NOTE Confidence: 0.614042684545455  
00:16:20.180 --> 00:16:21.119 Which did what?  
NOTE Confidence: 0.906400203  
00:16:23.360 --> 00:16:25.400 And so we kind of went over the study itself.  
NOTE Confidence: 0.906400203  
00:16:25.400 --> 00:16:27.227 But you know, most of the patients  
NOTE Confidence: 0.906400203  
00:16:27.227 --> 00:16:28.571 in compared to the controls  
NOTE Confidence: 0.906400203  
00:16:28.571 --> 00:16:30.089 on 15 items on the scope.  
NOTE Confidence: 0.906400203  
00:16:30.090 --> 00:16:32.325 IT had increased symptom burden  
NOTE Confidence: 0.906400203  
00:16:32.325 --> 00:16:34.560 in the 59 patients treated  
NOTE Confidence: 0.906400203  
00:16:34.640 --> 00:16:36.800 with narcolepsy medications,  
NOTE Confidence: 0.906400203  
00:16:36.800 --> 00:16:38.456 there was no difference in the  
NOTE Confidence: 0.906400203  
00:16:38.456 --> 00:16:40.586 scope of the UT and what they  
NOTE Confidence: 0.906400203

00:16:40.586 --> 00:16:42.196 found was the increase scope.  
NOTE Confidence: 0.906400203

00:16:42.200 --> 00:16:44.204 UT score was associated with an  
NOTE Confidence: 0.906400203

00:16:44.204 --> 00:16:46.434 older age and longer duration of  
NOTE Confidence: 0.906400203

00:16:46.434 --> 00:16:48.489 the diagnosis of narcolepsy rather  
NOTE Confidence: 0.906400203

00:16:48.489 --> 00:16:50.846 than the erection levels in your  
NOTE Confidence: 0.906400203

00:16:50.846 --> 00:16:52.946 CSF or the severity of narcolepsy.  
NOTE Confidence: 0.906400203

00:16:52.950 --> 00:16:55.060 Suggesting that there's something else  
NOTE Confidence: 0.906400203

00:16:55.060 --> 00:16:57.935 at play here besides just the fact  
NOTE Confidence: 0.906400203

00:16:57.935 --> 00:17:00.029 that you might have bad narcolepsy  
NOTE Confidence: 0.906400203

00:17:00.029 --> 00:17:02.247 or really low CSF orexin levels.  
NOTE Confidence: 0.906400203

00:17:02.250 --> 00:17:03.990 We we know that autonomic  
NOTE Confidence: 0.906400203

00:17:03.990 --> 00:17:05.730 dysfunction in sleep apnea occurs.  
NOTE Confidence: 0.906400203

00:17:05.730 --> 00:17:09.062 This is typically thought to be secondary  
NOTE Confidence: 0.906400203

00:17:09.062 --> 00:17:12.125 to abnormal adrenergic tone in these  
NOTE Confidence: 0.906400203

00:17:12.125 --> 00:17:14.205 patients do intermittent hypoxemia.  
NOTE Confidence: 0.906400203

00:17:14.210 --> 00:17:16.220 And often very, very commonly,

NOTE Confidence: 0.906400203  
00:17:16.220 --> 00:17:16.877 it goes unrecognized,  
NOTE Confidence: 0.906400203  
00:17:16.877 --> 00:17:19.290 and so we can take care of their sleep apnea.  
NOTE Confidence: 0.906400203  
00:17:19.290 --> 00:17:20.954 The excessive daytime sleepiness.  
NOTE Confidence: 0.906400203  
00:17:20.954 --> 00:17:24.280 But they might still continue to feel crummy.  
NOTE Confidence: 0.906400203  
00:17:24.280 --> 00:17:27.345 Because the disorder only persists  
NOTE Confidence: 0.906400203  
00:17:27.345 --> 00:17:29.184 despite adequate treatment.  
NOTE Confidence: 0.906400203  
00:17:29.190 --> 00:17:31.948 And so these are the proposed mechanisms.  
NOTE Confidence: 0.906400203  
00:17:31.950 --> 00:17:33.882 So we talked about narcolepsy 1  
NOTE Confidence: 0.906400203  
00:17:33.882 --> 00:17:35.566 deficiency and orexin teams seems  
NOTE Confidence: 0.906400203  
00:17:35.566 --> 00:17:37.564 to be the biggest issue here  
NOTE Confidence: 0.906400203  
00:17:37.564 --> 00:17:38.563 in idiopathic hypersomnia.  
NOTE Confidence: 0.906400203  
00:17:38.570 --> 00:17:38.887 Interestingly,  
NOTE Confidence: 0.906400203  
00:17:38.887 --> 00:17:41.106 there appears to be an immune dysfunction.  
NOTE Confidence: 0.906400203  
00:17:41.110 --> 00:17:42.830 There's something that's just regulating  
NOTE Confidence: 0.906400203  
00:17:42.830 --> 00:17:44.975 the amount of sleep that predisposes  
NOTE Confidence: 0.906400203

00:17:44.975 --> 00:17:47.195 them to automate dysfunction in pots.  
NOTE Confidence: 0.906400203

00:17:47.200 --> 00:17:49.204 And subsequently there might be a  
NOTE Confidence: 0.906400203

00:17:49.204 --> 00:17:51.177 role for immune modulators in these  
NOTE Confidence: 0.906400203

00:17:51.177 --> 00:17:52.622 patients to actually treat both  
NOTE Confidence: 0.906400203

00:17:52.622 --> 00:17:55.019 their IH as well as the autonomic  
NOTE Confidence: 0.906400203

00:17:55.019 --> 00:17:56.251 dysfunction and sleep apnea.  
NOTE Confidence: 0.906400203

00:17:56.251 --> 00:17:57.399 It's the intermittent hypoxia  
NOTE Confidence: 0.906400203

00:17:57.399 --> 00:17:59.129 that leads to a polyneuropathy.  
NOTE Confidence: 0.906400203

00:17:59.130 --> 00:18:01.102 Ultimately leading to dysfunction  
NOTE Confidence: 0.906400203

00:18:01.102 --> 00:18:03.567 of the autonomic nervous system.  
NOTE Confidence: 0.906400203

00:18:03.570 --> 00:18:05.626 And so we've kind of talked about this,  
NOTE Confidence: 0.906400203

00:18:05.630 --> 00:18:06.003 right?  
NOTE Confidence: 0.906400203

00:18:06.003 --> 00:18:08.241 People that have another dysfunction and  
NOTE Confidence: 0.906400203

00:18:08.241 --> 00:18:09.925 comorbid sleep disorders will report  
NOTE Confidence: 0.906400203

00:18:09.925 --> 00:18:11.703 a poor quality of life and address  
NOTE Confidence: 0.906400203

00:18:11.703 --> 00:18:13.670 an increase in depressive symptoms.

NOTE Confidence: 0.906400203  
00:18:13.670 --> 00:18:14.398 And so,  
NOTE Confidence: 0.906400203  
00:18:14.398 --> 00:18:15.490 as sleep possessions,  
NOTE Confidence: 0.906400203  
00:18:15.490 --> 00:18:17.170 we might take care of these sleep disorders.  
NOTE Confidence: 0.906400203  
00:18:17.170 --> 00:18:18.674 But if we don't really take care of  
NOTE Confidence: 0.906400203  
00:18:18.674 --> 00:18:20.389 their if they're autonomic dysfunction,  
NOTE Confidence: 0.906400203  
00:18:20.390 --> 00:18:23.110 they might continue to feel  
NOTE Confidence: 0.906400203  
00:18:23.110 --> 00:18:25.286 terrible and inadequately treated.  
NOTE Confidence: 0.906400203  
00:18:25.290 --> 00:18:27.271 And then obviously a lot of these  
NOTE Confidence: 0.906400203  
00:18:27.271 --> 00:18:29.346 medications that we use to treat  
NOTE Confidence: 0.906400203  
00:18:29.346 --> 00:18:30.516 excessively attentiveness can  
NOTE Confidence: 0.906400203  
00:18:30.516 --> 00:18:32.076 lead to worsening dysautonomia  
NOTE Confidence: 0.906400203  
00:18:32.130 --> 00:18:33.680 and dysregulation of the NSA.  
NOTE Confidence: 0.906400203  
00:18:33.680 --> 00:18:37.400 So this is just a quick overview,  
NOTE Confidence: 0.906400203  
00:18:37.400 --> 00:18:39.640 you know basic signs, 101,  
NOTE Confidence: 0.906400203  
00:18:39.640 --> 00:18:39.966 sympathetic,  
NOTE Confidence: 0.906400203

00:18:39.966 --> 00:18:41.922 parasympathetic and you can see the  
NOTE Confidence: 0.906400203

00:18:41.922 --> 00:18:43.796 amount of control that this autonomic  
NOTE Confidence: 0.906400203

00:18:43.796 --> 00:18:45.476 nervous system has on our body,  
NOTE Confidence: 0.906400203

00:18:45.480 --> 00:18:48.036 and so the the amount of.  
NOTE Confidence: 0.906400203

00:18:48.040 --> 00:18:50.095 Impact that dysregulated sleep will  
NOTE Confidence: 0.906400203

00:18:50.095 --> 00:18:52.580 have on a patient even if we take  
NOTE Confidence: 0.906400203

00:18:52.580 --> 00:18:53.630 care of their sleep complaints.  
NOTE Confidence: 0.906400203

00:18:53.630 --> 00:18:56.720 They can continue to feel terrible  
NOTE Confidence: 0.906400203

00:18:56.720 --> 00:18:59.185 and so talking about management  
NOTE Confidence: 0.906400203

00:18:59.185 --> 00:19:01.650 of this autonomia and hypersomnia.  
NOTE Confidence: 0.906400203

00:19:01.650 --> 00:19:02.160 You know,  
NOTE Confidence: 0.906400203

00:19:02.160 --> 00:19:03.690 treatment with CPAP therapy has been  
NOTE Confidence: 0.906400203

00:19:03.690 --> 00:19:05.640 shown to improve dysautonomia symptoms.  
NOTE Confidence: 0.906400203

00:19:05.640 --> 00:19:07.155 Now these were small case  
NOTE Confidence: 0.906400203

00:19:07.155 --> 00:19:08.064 theory case studies,  
NOTE Confidence: 0.906400203

00:19:08.070 --> 00:19:10.890 mostly in Pediatrics and in Pediatrics,

NOTE Confidence: 0.906400203

00:19:10.890 --> 00:19:11.586 at least.

NOTE Confidence: 0.906400203

00:19:11.586 --> 00:19:11.934 Anecdotaly,

NOTE Confidence: 0.906400203

00:19:11.934 --> 00:19:14.545 what we're seeing is the sleep deprivation.

NOTE Confidence: 0.906400203

00:19:14.545 --> 00:19:16.570 Sleep fragmentation does have an

NOTE Confidence: 0.906400203

00:19:16.570 --> 00:19:19.235 almost an amplified response to the

NOTE Confidence: 0.906400203

00:19:19.235 --> 00:19:21.754 dysautonomia that kids will present with,

NOTE Confidence: 0.906400203

00:19:21.754 --> 00:19:25.142 and so PAP therapy has been shown to

NOTE Confidence: 0.906400203

00:19:25.142 --> 00:19:27.030 improve the dysautonomia symptoms.

NOTE Confidence: 0.71904645

00:19:27.030 --> 00:19:29.306 Interestingly, like I mentioned, I, uh,

NOTE Confidence: 0.71904645

00:19:29.306 --> 00:19:31.658 there seems to be an immune component.

NOTE Confidence: 0.71904645

00:19:31.660 --> 00:19:33.860 Immune response to these patients,

NOTE Confidence: 0.71904645

00:19:33.860 --> 00:19:35.606 and so the the case presentation

NOTE Confidence: 0.71904645

00:19:35.606 --> 00:19:37.962 that I started off with the young

NOTE Confidence: 0.71904645

00:19:37.962 --> 00:19:39.847 lady that was diagnosed with

NOTE Confidence: 0.71904645

00:19:39.847 --> 00:19:41.126 idiopathic hypersomnia idiopathic

NOTE Confidence: 0.71904645

00:19:41.126 --> 00:19:43.456 gastroparesis and diagnosed with pots.

NOTE Confidence: 0.71904645

00:19:43.460 --> 00:19:45.581 She actually ended up with IVIG to

NOTE Confidence: 0.71904645

00:19:45.581 --> 00:19:48.079 treat her any about the gastroparesis,

NOTE Confidence: 0.71904645

00:19:48.080 --> 00:19:50.760 and surprisingly she actually had

NOTE Confidence: 0.71904645

00:19:50.760 --> 00:19:53.200 improvement in her IH complaint.

NOTE Confidence: 0.71904645

00:19:53.200 --> 00:19:54.860 She was less sleepy,

NOTE Confidence: 0.71904645

00:19:54.860 --> 00:19:55.898 required less stimulants,

NOTE Confidence: 0.71904645

00:19:55.898 --> 00:19:58.320 and so I've actually been shown to

NOTE Confidence: 0.71904645

00:19:58.377 --> 00:20:00.277 help with the autonomic symptoms,

NOTE Confidence: 0.71904645

00:20:00.280 --> 00:20:01.736 so that would be a very unique.

NOTE Confidence: 0.71904645

00:20:01.740 --> 00:20:03.544 Treatment pathology for patients

NOTE Confidence: 0.71904645

00:20:03.544 --> 00:20:05.799 that have IH with comorbid

NOTE Confidence: 0.71904645

00:20:05.799 --> 00:20:07.672 autonomic dysfunction and then,

NOTE Confidence: 0.71904645

00:20:07.672 --> 00:20:08.304 you know,

NOTE Confidence: 0.71904645

00:20:08.304 --> 00:20:10.200 increase salt and water is recommended

NOTE Confidence: 0.71904645

00:20:10.257 --> 00:20:12.825 for all patients with pots to keep the



NOTE Confidence: 0.71904645

00:20:12.825 --> 00:20:14.509 intravascular volume and the tone high.

NOTE Confidence: 0.71904645

00:20:14.510 --> 00:20:16.406 And so if you do have a patient

NOTE Confidence: 0.71904645

00:20:16.406 --> 00:20:17.848 with narcolepsy with a lot

NOTE Confidence: 0.71904645

00:20:17.848 --> 00:20:18.757 of autonomic dysfunction,

NOTE Confidence: 0.71904645

00:20:18.760 --> 00:20:21.483 this might be the person that might

NOTE Confidence: 0.71904645

00:20:21.483 --> 00:20:24.078 benefit from desire instead of desire wave,

NOTE Confidence: 0.71904645

00:20:24.078 --> 00:20:25.863 they actually might benefit from

NOTE Confidence: 0.71904645

00:20:25.863 --> 00:20:27.589 the increased salt load compared

NOTE Confidence: 0.71904645

00:20:27.589 --> 00:20:29.251 to the low salt medicine,

NOTE Confidence: 0.71904645

00:20:29.251 --> 00:20:31.708 even if it doesn't taste as good.

NOTE Confidence: 0.9099358933333333

00:20:34.250 --> 00:20:36.608 This is a quick little summary.

NOTE Confidence: 0.9099358933333333

00:20:36.610 --> 00:20:38.754 Let's say you do have a patient that

NOTE Confidence: 0.9099358933333333

00:20:38.754 --> 00:20:40.897 came to you referred from cardiology

NOTE Confidence: 0.9099358933333333

00:20:40.897 --> 00:20:42.732 with pots with Steve complaints.

NOTE Confidence: 0.9099358933333333

00:20:42.732 --> 00:20:45.601 So our job or the cardiologist job might

NOTE Confidence: 0.9099358933333333

00:20:45.601 --> 00:20:47.820 be to recognize the pots, screen them  
NOTE Confidence: 0.9099358933333333

00:20:47.820 --> 00:20:49.955 for sleep complaints if they have any.  
NOTE Confidence: 0.9099358933333333

00:20:49.960 --> 00:20:51.864 If they don't continue to treat the parts,  
NOTE Confidence: 0.9099358933333333

00:20:51.870 --> 00:20:53.330 they do have sleep complaints,  
NOTE Confidence: 0.9099358933333333

00:20:53.330 --> 00:20:55.814 then our job becomes to do a sleep focused  
NOTE Confidence: 0.9099358933333333

00:20:55.814 --> 00:20:58.594 agent P and really break it down into these  
NOTE Confidence: 0.9099358933333333

00:20:58.594 --> 00:21:00.647 sleep disorders that we might see first.  
NOTE Confidence: 0.9099358933333333

00:21:00.650 --> 00:21:01.790 Insomnia, we can talk about  
NOTE Confidence: 0.9099358933333333

00:21:01.790 --> 00:21:02.930 the standard which would be.  
NOTE Confidence: 0.9099358933333333

00:21:02.930 --> 00:21:05.754 BT melatonin and then recognize that a lot  
NOTE Confidence: 0.9099358933333333

00:21:05.754 --> 00:21:08.958 of these patients might be on beta blockers.  
NOTE Confidence: 0.9099358933333333

00:21:08.960 --> 00:21:11.100 Beta blockers can worsen insomnia  
NOTE Confidence: 0.9099358933333333

00:21:11.100 --> 00:21:13.240 and can worsen restless legs  
NOTE Confidence: 0.9099358933333333

00:21:13.240 --> 00:21:14.670 if it's poor sleep hygiene.  
NOTE Confidence: 0.9099358933333333

00:21:14.670 --> 00:21:16.660 Kind of the same thing.  
NOTE Confidence: 0.9099358933333333

00:21:16.660 --> 00:21:18.235 If you have a delayed sleep phase,

NOTE Confidence: 0.9099358933333333  
00:21:18.240 --> 00:21:19.836 some of these patients that are diagnosed  
NOTE Confidence: 0.9099358933333333  
00:21:19.836 --> 00:21:21.389 with pots are on the younger side,  
NOTE Confidence: 0.9099358933333333  
00:21:21.390 --> 00:21:22.965 so they are predisposed to  
NOTE Confidence: 0.9099358933333333  
00:21:22.965 --> 00:21:24.540 this disorder to begin with.  
NOTE Confidence: 0.9099358933333333  
00:21:24.540 --> 00:21:25.604 Considering actigraphy,  
NOTE Confidence: 0.9099358933333333  
00:21:25.604 --> 00:21:28.796 consider melatonin and phase shifting them.  
NOTE Confidence: 0.9099358933333333  
00:21:28.800 --> 00:21:30.652 Patients that present with  
NOTE Confidence: 0.9099358933333333  
00:21:30.652 --> 00:21:33.430 concern for sleep apnea or PLM.  
NOTE Confidence: 0.9099358933333333  
00:21:33.430 --> 00:21:34.922 You can study them.  
NOTE Confidence: 0.9099358933333333  
00:21:34.922 --> 00:21:37.160 They come in complaining of really  
NOTE Confidence: 0.9099358933333333  
00:21:37.233 --> 00:21:39.029 hypersomnia excessive sleep drive  
NOTE Confidence: 0.9099358933333333  
00:21:39.029 --> 00:21:42.420 studying with the BSG MSLT they have RLS.  
NOTE Confidence: 0.9099358933333333  
00:21:42.420 --> 00:21:44.863 You can screen them with the ferritin  
NOTE Confidence: 0.9099358933333333  
00:21:44.863 --> 00:21:46.792 completed if necessary and then  
NOTE Confidence: 0.9099358933333333  
00:21:46.792 --> 00:21:48.832 consider medication to treat the  
NOTE Confidence: 0.9099358933333333

00:21:48.832 --> 00:21:50.399 underlying RLS understanding that

NOTE Confidence: 0.9099358933333333

00:21:50.399 --> 00:21:52.394 patient with pots can present a lot

NOTE Confidence: 0.9099358933333333

00:21:52.394 --> 00:21:54.402 of times when sleep complaints and

NOTE Confidence: 0.9099358933333333

00:21:54.402 --> 00:21:56.910 it's our job as sleep physicians to

NOTE Confidence: 0.9099358933333333

00:21:56.910 --> 00:21:59.290 kind of filter out what's what to get

NOTE Confidence: 0.9099358933333333

00:21:59.290 --> 00:22:00.865 the patient treated overall rather

NOTE Confidence: 0.9099358933333333

00:22:00.865 --> 00:22:02.750 than just their sleep disorders.

NOTE Confidence: 0.8297485025333333

00:22:04.830 --> 00:22:06.606 Switching gears a little

NOTE Confidence: 0.8297485025333333

00:22:06.606 --> 00:22:08.382 bit from cardiovascular and

NOTE Confidence: 0.8297485025333333

00:22:08.382 --> 00:22:09.962 dysautonomia to ophthalmologic

NOTE Confidence: 0.8297485025333333

00:22:09.962 --> 00:22:12.466 manifestation of sleep disorders.

NOTE Confidence: 0.8297485025333333

00:22:12.470 --> 00:22:14.745 And so this was a disease condition

NOTE Confidence: 0.8297485025333333

00:22:14.745 --> 00:22:17.091 that I'd never even heard of before

NOTE Confidence: 0.8297485025333333

00:22:17.091 --> 00:22:19.041 I started working on this and

NOTE Confidence: 0.8297485025333333

00:22:19.112 --> 00:22:21.128 some of you might recognize it.

NOTE Confidence: 0.8297485025333333

00:22:21.130 --> 00:22:22.828 But this is floppy eyelid syndrome.

NOTE Confidence: 0.829748502533333  
00:22:22.830 --> 00:22:24.643 And so I'll get into that exactly  
NOTE Confidence: 0.829748502533333  
00:22:24.643 --> 00:22:27.190 what it is and it's associated with  
NOTE Confidence: 0.829748502533333  
00:22:27.190 --> 00:22:28.898 association with sleep disorders,  
NOTE Confidence: 0.829748502533333  
00:22:28.900 --> 00:22:31.078 mainly sleep apnea.  
NOTE Confidence: 0.829748502533333  
00:22:31.080 --> 00:22:32.856 Again, so this is another case  
NOTE Confidence: 0.829748502533333  
00:22:32.856 --> 00:22:35.482 that we had in in in in our sleep  
NOTE Confidence: 0.829748502533333  
00:22:35.482 --> 00:22:37.760 Center 62 year old female with  
NOTE Confidence: 0.829748502533333  
00:22:37.760 --> 00:22:39.360 the history of hypothyroidism.  
NOTE Confidence: 0.829748502533333  
00:22:39.360 --> 00:22:40.344 She originally presented to  
NOTE Confidence: 0.829748502533333  
00:22:40.344 --> 00:22:41.574 the ER with sudden onset,  
NOTE Confidence: 0.829748502533333  
00:22:41.580 --> 00:22:43.520 painless central vision locks  
NOTE Confidence: 0.829748502533333  
00:22:43.520 --> 00:22:46.430 upon waking up in the morning.  
NOTE Confidence: 0.829748502533333  
00:22:46.430 --> 00:22:47.640 She went to the ER.  
NOTE Confidence: 0.829748502533333  
00:22:47.640 --> 00:22:48.705 They did imaging.  
NOTE Confidence: 0.829748502533333  
00:22:48.705 --> 00:22:51.190 There was no evidence of a stroke.  
NOTE Confidence: 0.829748502533333

00:22:51.190 --> 00:22:54.045 They did an ophthalmological evaluation  
NOTE Confidence: 0.829748502533333

00:22:54.045 --> 00:22:56.900 and revealed and Afrin pupillary  
NOTE Confidence: 0.829748502533333

00:22:56.987 --> 00:22:59.287 defect with optic disc edema.  
NOTE Confidence: 0.829748502533333

00:22:59.290 --> 00:23:00.890 This was what was reported in the ER.  
NOTE Confidence: 0.829748502533333

00:23:00.890 --> 00:23:03.826 I'm sure it was done by an ophthalmologist,  
NOTE Confidence: 0.829748502533333

00:23:03.830 --> 00:23:05.330 certainly as a sleep physician.  
NOTE Confidence: 0.829748502533333

00:23:05.330 --> 00:23:07.130 I can tell you that I would know  
NOTE Confidence: 0.829748502533333

00:23:07.130 --> 00:23:08.693 how to do an ophthalmological  
NOTE Confidence: 0.829748502533333

00:23:08.693 --> 00:23:10.805 evaluation kind of pick this up.  
NOTE Confidence: 0.829748502533333

00:23:10.810 --> 00:23:13.420 She ultimately did see a neuro  
NOTE Confidence: 0.829748502533333

00:23:13.420 --> 00:23:14.725 ophthalmologist after these  
NOTE Confidence: 0.829748502533333

00:23:14.725 --> 00:23:16.138 findings in the ER and.  
NOTE Confidence: 0.829748502533333

00:23:16.140 --> 00:23:18.396 And was referred to us for  
NOTE Confidence: 0.829748502533333

00:23:18.396 --> 00:23:19.900 evaluation for sleep disorder,  
NOTE Confidence: 0.829748502533333

00:23:19.900 --> 00:23:22.048 breathing, and so for those units  
NOTE Confidence: 0.829748502533333

00:23:22.048 --> 00:23:23.480 that might recognize this,

NOTE Confidence: 0.829748502533333  
00:23:23.480 --> 00:23:25.988 this is nonarteritic anterior  
NOTE Confidence: 0.829748502533333  
00:23:25.988 --> 00:23:27.869 ischemic optic neuropathy.  
NOTE Confidence: 0.829748502533333  
00:23:27.870 --> 00:23:28.180 So,  
NOTE Confidence: 0.829748502533333  
00:23:28.180 --> 00:23:30.350 and ion is is what she was  
NOTE Confidence: 0.829748502533333  
00:23:30.350 --> 00:23:31.559 referred to us for,  
NOTE Confidence: 0.829748502533333  
00:23:31.560 --> 00:23:34.480 which is the first time for me and I believe  
NOTE Confidence: 0.829748502533333  
00:23:34.480 --> 00:23:35.740 I saw this patient with Doctor Weir,  
NOTE Confidence: 0.829748502533333  
00:23:35.740 --> 00:23:37.245 but it's obviously not the first time  
NOTE Confidence: 0.829748502533333  
00:23:37.245 --> 00:23:39.139 that he seen somebody with this referral,  
NOTE Confidence: 0.829748502533333  
00:23:39.140 --> 00:23:40.834 and so just going down that pathway.  
NOTE Confidence: 0.829748502533333  
00:23:40.840 --> 00:23:43.568 There's a lot of sleep eye conditions that  
NOTE Confidence: 0.829748502533333  
00:23:43.568 --> 00:23:45.839 sleep disorders have been associated with,  
NOTE Confidence: 0.829748502533333  
00:23:45.840 --> 00:23:46.260 so.  
NOTE Confidence: 0.829748502533333  
00:23:46.260 --> 00:23:48.780 Canon is fairly frequently associated with  
NOTE Confidence: 0.829748502533333  
00:23:48.780 --> 00:23:51.450 this and opthamologist neuro ophthalmologist.  
NOTE Confidence: 0.829748502533333

00:23:51.450 --> 00:23:53.040 You know that this association exists,  
NOTE Confidence: 0.829748502533333

00:23:53.040 --> 00:23:54.618 and so when they diagnosed with  
NOTE Confidence: 0.829748502533333

00:23:54.618 --> 00:23:55.670 somebody with this condition,  
NOTE Confidence: 0.829748502533333

00:23:55.670 --> 00:23:57.040 they're very frequently will refer  
NOTE Confidence: 0.829748502533333

00:23:57.040 --> 00:23:59.299 them for a sleep study to make sure  
NOTE Confidence: 0.829748502533333

00:23:59.299 --> 00:24:00.967 that there's no underlying sleep apnea.  
NOTE Confidence: 0.829748502533333

00:24:00.970 --> 00:24:02.270 Floppy outlets, you know,  
NOTE Confidence: 0.829748502533333

00:24:02.270 --> 00:24:04.220 is something that I came across.  
NOTE Confidence: 0.829748502533333

00:24:04.220 --> 00:24:05.846 Doing my research and talk about  
NOTE Confidence: 0.829748502533333

00:24:05.846 --> 00:24:07.800 that a little bit later glaucoma.  
NOTE Confidence: 0.829748502533333

00:24:07.800 --> 00:24:11.976 It's a huge spectrum of disease that exist,  
NOTE Confidence: 0.829748502533333

00:24:11.980 --> 00:24:14.038 but the two that are most often  
NOTE Confidence: 0.829748502533333

00:24:14.038 --> 00:24:15.420 associated with sleep pathophysiology  
NOTE Confidence: 0.829748502533333

00:24:15.420 --> 00:24:17.595 is primary open angle glaucoma,  
NOTE Confidence: 0.829748502533333

00:24:17.600 --> 00:24:19.700 and then normal tension glaucoma  
NOTE Confidence: 0.829748502533333

00:24:19.700 --> 00:24:22.185 papilledema a lot of different



NOTE Confidence: 0.829748502533333  
00:24:22.185 --> 00:24:23.676 ideologies behind papilledema,  
NOTE Confidence: 0.829748502533333  
00:24:23.680 --> 00:24:25.365 which ultimately comes down to  
NOTE Confidence: 0.829748502533333  
00:24:25.365 --> 00:24:26.376 increased intracranial pressure,  
NOTE Confidence: 0.829748502533333  
00:24:26.380 --> 00:24:27.608 intraocular pressure,  
NOTE Confidence: 0.829748502533333  
00:24:27.608 --> 00:24:28.836 nocturnal lagophthalmos.  
NOTE Confidence: 0.829748502533333  
00:24:28.836 --> 00:24:30.678 This was interesting.  
NOTE Confidence: 0.829748502533333  
00:24:30.680 --> 00:24:32.222 I knew what this was before  
NOTE Confidence: 0.829748502533333  
00:24:32.222 --> 00:24:33.789 doing this research, is it it's?  
NOTE Confidence: 0.829748502533333  
00:24:33.789 --> 00:24:35.630 The inability to close your eyes at  
NOTE Confidence: 0.829748502533333  
00:24:35.689 --> 00:24:37.929 night or completely close them at night.  
NOTE Confidence: 0.829748502533333  
00:24:37.930 --> 00:24:38.372 Interestingly,  
NOTE Confidence: 0.829748502533333  
00:24:38.372 --> 00:24:40.582 it's seen more commonly in  
NOTE Confidence: 0.829748502533333  
00:24:40.582 --> 00:24:42.478 patients with sleep disorder,  
NOTE Confidence: 0.829748502533333  
00:24:42.478 --> 00:24:43.990 breathing, sleep apnea,  
NOTE Confidence: 0.829748502533333  
00:24:43.990 --> 00:24:45.040 obstructive sleep apnea,  
NOTE Confidence: 0.829748502533333

00:24:45.040 --> 00:24:47.490 and then obviously we know we deal  
NOTE Confidence: 0.829748502533333

00:24:47.555 --> 00:24:49.002 with this pretty frequently.  
NOTE Confidence: 0.829748502533333

00:24:49.002 --> 00:24:50.370 It's actual sleep,  
NOTE Confidence: 0.829748502533333

00:24:50.370 --> 00:24:53.890 cpap related eye complications.  
NOTE Confidence: 0.829748502533333

00:24:53.890 --> 00:24:56.788 So getting back to NI on or non underdog  
NOTE Confidence: 0.829748502533333

00:24:56.788 --> 00:24:58.949 anterior schematic optic neuropathy,  
NOTE Confidence: 0.829748502533333

00:24:58.950 --> 00:25:00.790 it's characterized by sudden onset,  
NOTE Confidence: 0.829748502533333

00:25:00.790 --> 00:25:03.086 painless unilateral vision loss that it can  
NOTE Confidence: 0.829748502533333

00:25:03.086 --> 00:25:05.289 affect the central and peripheral vision.  
NOTE Confidence: 0.829748502533333

00:25:05.290 --> 00:25:05.565 Typically,  
NOTE Confidence: 0.829748502533333

00:25:05.565 --> 00:25:06.665 patients will present pretty  
NOTE Confidence: 0.829748502533333

00:25:06.665 --> 00:25:08.040 quickly when a central vision  
NOTE Confidence: 0.781698256666667

00:25:08.082 --> 00:25:09.447 because it's very obvious to them once  
NOTE Confidence: 0.781698256666667

00:25:09.447 --> 00:25:11.017 in a while they might lose peripheral  
NOTE Confidence: 0.781698256666667

00:25:11.017 --> 00:25:13.044 vision and not present till much later on.  
NOTE Confidence: 0.781698256666667

00:25:13.044 --> 00:25:15.193 It is the most common cause of

NOTE Confidence: 0.781698256666667

00:25:15.193 --> 00:25:17.234 optic neuropathy in patients over 50

NOTE Confidence: 0.781698256666667

00:25:17.234 --> 00:25:19.909 years of age in the United States.

NOTE Confidence: 0.781698256666667

00:25:19.910 --> 00:25:21.740 And then the visual loss is

NOTE Confidence: 0.781698256666667

00:25:21.740 --> 00:25:22.350 actually irreversible.

NOTE Confidence: 0.781698256666667

00:25:22.350 --> 00:25:25.216 Unfortunately, and up to 33% of

NOTE Confidence: 0.781698256666667

00:25:25.216 --> 00:25:27.246 patients will continue to have

NOTE Confidence: 0.781698256666667

00:25:27.246 --> 00:25:29.270 ongoing or evolving vision loss

NOTE Confidence: 0.781698256666667

00:25:29.270 --> 00:25:31.587 over the over the coming days or

NOTE Confidence: 0.781698256666667

00:25:31.587 --> 00:25:33.608 weeks after the initial insult.

NOTE Confidence: 0.781698256666667

00:25:33.610 --> 00:25:36.538 And so this table right here talks about

NOTE Confidence: 0.781698256666667

00:25:36.538 --> 00:25:39.067 the prevalence of an ion and sleep apnea,

NOTE Confidence: 0.781698256666667

00:25:39.070 --> 00:25:41.558 and so you can see it's as high

NOTE Confidence: 0.781698256666667

00:25:41.558 --> 00:25:43.442 as 89% in patients with sleep

NOTE Confidence: 0.781698256666667

00:25:43.442 --> 00:25:45.579 apnea with the risk ratio of 4.9.

NOTE Confidence: 0.781698256666667

00:25:45.580 --> 00:25:47.932 So five times as compared to

NOTE Confidence: 0.781698256666667

00:25:47.932 --> 00:25:49.108 the general population.  
NOTE Confidence: 0.781698256666667

00:25:49.110 --> 00:25:51.072 Another one says that the prevalence  
NOTE Confidence: 0.781698256666667

00:25:51.072 --> 00:25:53.810 is about 71% of patients that had  
NOTE Confidence: 0.781698256666667

00:25:53.810 --> 00:25:56.470 an iron had comorbid sleep apnea.  
NOTE Confidence: 0.781698256666667

00:25:56.470 --> 00:25:58.234 This is what the imaging this is,  
NOTE Confidence: 0.781698256666667

00:25:58.240 --> 00:26:00.135 what the FUNDOSCOPY would show  
NOTE Confidence: 0.781698256666667

00:26:00.135 --> 00:26:02.700 you again as a sleep trained.  
NOTE Confidence: 0.781698256666667

00:26:02.700 --> 00:26:04.630 Provider having done residency in  
NOTE Confidence: 0.781698256666667

00:26:04.630 --> 00:26:06.560 medicine and plumbing group care.  
NOTE Confidence: 0.781698256666667

00:26:06.560 --> 00:26:08.058 I cannot tell you that I will  
NOTE Confidence: 0.781698256666667

00:26:08.058 --> 00:26:09.650 be able to get this fundoscopic  
NOTE Confidence: 0.781698256666667

00:26:09.650 --> 00:26:11.432 image and describe it to you,  
NOTE Confidence: 0.781698256666667

00:26:11.440 --> 00:26:13.732 but essentially what we're looking at  
NOTE Confidence: 0.781698256666667

00:26:13.732 --> 00:26:16.310 is somebody with a normal eye here and  
NOTE Confidence: 0.781698256666667

00:26:16.310 --> 00:26:18.878 a right eye with mild disc edema here,  
NOTE Confidence: 0.781698256666667

00:26:18.880 --> 00:26:20.756 which looks very very subtle to me.

NOTE Confidence: 0.781698256666667

00:26:20.760 --> 00:26:22.016 But essentially that's what

NOTE Confidence: 0.781698256666667

00:26:22.016 --> 00:26:23.900 we're supposed to be seeing when

NOTE Confidence: 0.781698256666667

00:26:23.958 --> 00:26:25.738 somebody gets diagnosed with this.

NOTE Confidence: 0.781698256666667

00:26:25.740 --> 00:26:27.940 And so the pathophysiology of Anon is very,

NOTE Confidence: 0.781698256666667

00:26:27.940 --> 00:26:28.542 very interesting.

NOTE Confidence: 0.781698256666667

00:26:28.542 --> 00:26:30.649 And This is why there's an association

NOTE Confidence: 0.781698256666667

00:26:30.649 --> 00:26:32.747 rather than a causation which for a lot

NOTE Confidence: 0.781698256666667

00:26:32.747 --> 00:26:34.259 of these conditions will hold true.

NOTE Confidence: 0.781698256666667

00:26:34.260 --> 00:26:35.884 So the most common risk factor is

NOTE Confidence: 0.781698256666667

00:26:35.884 --> 00:26:37.974 age of our 50 hypertension, diabetes,

NOTE Confidence: 0.781698256666667

00:26:37.974 --> 00:26:39.456 atherosclerosis, hyperlipidemia, right?

NOTE Confidence: 0.781698256666667

00:26:39.456 --> 00:26:43.349 So when you look at those risk factors.

NOTE Confidence: 0.781698256666667

00:26:43.350 --> 00:26:46.398 There's so much overlap here between

NOTE Confidence: 0.781698256666667

00:26:46.398 --> 00:26:50.968 here and and a CDCB a patient that you say,

NOTE Confidence: 0.781698256666667

00:26:50.970 --> 00:26:53.290 well, isn't this just a subtype of that?

NOTE Confidence: 0.781698256666667

00:26:53.290 --> 00:26:55.226 When you look at patient with sleep apnea?

NOTE Confidence: 0.781698256666667

00:26:55.230 --> 00:26:57.426 Regardless of all these risk factors,

NOTE Confidence: 0.781698256666667

00:26:57.430 --> 00:26:58.114 their risk ratio,

NOTE Confidence: 0.781698256666667

00:26:58.114 --> 00:26:59.026 like we talked about,

NOTE Confidence: 0.781698256666667

00:26:59.030 --> 00:27:01.410 is 5 times compared to the general

NOTE Confidence: 0.781698256666667

00:27:01.410 --> 00:27:02.090 population development,

NOTE Confidence: 0.781698256666667

00:27:02.090 --> 00:27:04.810 and so if you meet all these criteria,

NOTE Confidence: 0.781698256666667

00:27:04.810 --> 00:27:05.994 if you're over 50,

NOTE Confidence: 0.781698256666667

00:27:05.994 --> 00:27:08.370 if you have high blood pressure diabetes,

NOTE Confidence: 0.781698256666667

00:27:08.370 --> 00:27:10.458 and you add sleep apnea on top of that,

NOTE Confidence: 0.781698256666667

00:27:10.460 --> 00:27:12.206 your risk ratio gets up very,

NOTE Confidence: 0.781698256666667

00:27:12.210 --> 00:27:14.478 very quickly for the development of.

NOTE Confidence: 0.781698256666667

00:27:14.480 --> 00:27:16.856 And the potential mechanisms of the

NOTE Confidence: 0.781698256666667

00:27:16.856 --> 00:27:18.440 proposed mechanisms are variable.

NOTE Confidence: 0.781698256666667

00:27:18.440 --> 00:27:21.098 Some of them suggest impaired optic

NOTE Confidence: 0.781698256666667

00:27:21.098 --> 00:27:23.445 nerve blood flow autoregulation during

NOTE Confidence: 0.781698256666667

00:27:23.445 --> 00:27:25.684 recurrent apneas there's also apnea

NOTE Confidence: 0.781698256666667

00:27:25.684 --> 00:27:27.316 induced blood pressure variation.

NOTE Confidence: 0.781698256666667

00:27:27.320 --> 00:27:28.994 So as the blood pressure varies

NOTE Confidence: 0.781698256666667

00:27:28.994 --> 00:27:30.825 when we have periods of happening

NOTE Confidence: 0.781698256666667

00:27:30.825 --> 00:27:32.799 rather than dipping and non dipping,

NOTE Confidence: 0.781698256666667

00:27:32.800 --> 00:27:34.620 the autoregulation again is broken

NOTE Confidence: 0.781698256666667

00:27:34.620 --> 00:27:37.250 and can lead to this impaired blood

NOTE Confidence: 0.781698256666667

00:27:37.250 --> 00:27:39.590 flow and then during periods of

NOTE Confidence: 0.781698256666667

00:27:39.590 --> 00:27:41.310 hyperventilation we end up inducing

NOTE Confidence: 0.781698256666667

00:27:41.310 --> 00:27:42.574 hypercapnia increase CO2 leads

NOTE Confidence: 0.781698256666667

00:27:42.574 --> 00:27:43.840 to an increased.

NOTE Confidence: 0.781698256666667

00:27:43.840 --> 00:27:44.153 SCP,

NOTE Confidence: 0.781698256666667

00:27:44.153 --> 00:27:46.344 which can further compress the optic nerve,

NOTE Confidence: 0.781698256666667

00:27:46.350 --> 00:27:48.854 so there's a lot of studies that show

NOTE Confidence: 0.781698256666667

00:27:48.854 --> 00:27:51.910 one of these pathophysiology mechanisms.

NOTE Confidence: 0.781698256666667

00:27:51.910 --> 00:27:53.390 None have been proven because  
NOTE Confidence: 0.781698256666667

00:27:53.390 --> 00:27:55.763 it's hard to know how much each of  
NOTE Confidence: 0.781698256666667

00:27:55.763 --> 00:27:57.709 these is playing a role in somebody  
NOTE Confidence: 0.7819419155

00:27:57.774 --> 00:27:59.398 with underlying sleep apnea.  
NOTE Confidence: 0.848003487

00:28:01.690 --> 00:28:04.030 Unfortunately, despite us knowing the  
NOTE Confidence: 0.848003487

00:28:04.030 --> 00:28:06.370 association between these two conditions,  
NOTE Confidence: 0.848003487

00:28:06.370 --> 00:28:09.149 there's no proven therapy for an ion.  
NOTE Confidence: 0.848003487

00:28:09.150 --> 00:28:11.052 Typically most ophthalmologists.  
NOTE Confidence: 0.848003487

00:28:11.052 --> 00:28:14.222 Neurologists will recommend some type  
NOTE Confidence: 0.848003487

00:28:14.222 --> 00:28:16.869 of antiplatelet therapy to reduce  
NOTE Confidence: 0.848003487

00:28:16.869 --> 00:28:19.076 your risk for recurrent insult.  
NOTE Confidence: 0.848003487

00:28:19.076 --> 00:28:21.456 And despite those known association  
NOTE Confidence: 0.848003487

00:28:21.456 --> 00:28:24.183 between sleep apnea and and the  
NOTE Confidence: 0.848003487

00:28:24.183 --> 00:28:26.063 treatment of sleep apnea with  
NOTE Confidence: 0.848003487

00:28:26.063 --> 00:28:28.844 PAP therapy has not been shown to  
NOTE Confidence: 0.848003487

00:28:28.844 --> 00:28:30.814 reduce the development of nylon.



NOTE Confidence: 0.848003487

00:28:30.820 --> 00:28:32.328 More often than not,

NOTE Confidence: 0.848003487

00:28:32.328 --> 00:28:34.213 patients will actually end up

NOTE Confidence: 0.848003487

00:28:34.213 --> 00:28:36.515 with another episode or another

NOTE Confidence: 0.848003487

00:28:36.515 --> 00:28:38.835 insult in their contralateral eye.

NOTE Confidence: 0.848003487

00:28:38.840 --> 00:28:40.455 Even if they've been diagnosed

NOTE Confidence: 0.848003487

00:28:40.455 --> 00:28:42.461 and are being treated for sleep

NOTE Confidence: 0.848003487

00:28:42.461 --> 00:28:43.797 apnea with PAP therapy,

NOTE Confidence: 0.848003487

00:28:43.800 --> 00:28:46.743 and so it's one of those things where there's

NOTE Confidence: 0.848003487

00:28:46.743 --> 00:28:49.877 an association we don't have causation and,

NOTE Confidence: 0.848003487

00:28:49.880 --> 00:28:52.800 and even if we treat the sleep apnea,

NOTE Confidence: 0.848003487

00:28:52.800 --> 00:28:54.312 it still doesn't appear to reduce

NOTE Confidence: 0.848003487

00:28:54.312 --> 00:28:56.319 the risk of of developing an ion,

NOTE Confidence: 0.848003487

00:28:56.320 --> 00:28:58.623 and this might go back to the

NOTE Confidence: 0.848003487

00:28:58.623 --> 00:29:00.458 coronary risk factors age over 50.

NOTE Confidence: 0.848003487

00:29:00.460 --> 00:29:01.600 Atherosclerosis,

NOTE Confidence: 0.848003487

00:29:01.600 --> 00:29:03.880 hypertension, diabetes,  
NOTE Confidence: 0.848003487

00:29:03.880 --> 00:29:05.004 so floppy outlet syndrome.  
NOTE Confidence: 0.848003487

00:29:05.004 --> 00:29:07.388 I think it does a great job of  
NOTE Confidence: 0.848003487

00:29:07.388 --> 00:29:09.290 describing what the disease is stated.  
NOTE Confidence: 0.848003487

00:29:09.290 --> 00:29:11.870 Health is essentially it's an easily  
NOTE Confidence: 0.848003487

00:29:11.870 --> 00:29:15.484 everted floppy eyelid and and and so we  
NOTE Confidence: 0.848003487

00:29:15.484 --> 00:29:17.759 associated with the papillary conjunctivitis.  
NOTE Confidence: 0.848003487

00:29:17.760 --> 00:29:19.104 It's been linked to a variety  
NOTE Confidence: 0.848003487

00:29:19.104 --> 00:29:20.250 of systemic disorders you have.  
NOTE Confidence: 0.848003487

00:29:20.250 --> 00:29:21.734 Obesity, hypertension,  
NOTE Confidence: 0.848003487

00:29:21.734 --> 00:29:23.960 diabetes, CD phrases,  
NOTE Confidence: 0.848003487

00:29:23.960 --> 00:29:25.590 so you can see it as a theme building here.  
NOTE Confidence: 0.848003487

00:29:25.590 --> 00:29:27.090 There's a lot of overlap between  
NOTE Confidence: 0.848003487

00:29:27.090 --> 00:29:28.730 a lot of these conditions,  
NOTE Confidence: 0.848003487

00:29:28.730 --> 00:29:30.230 sleep disorders and disease States  
NOTE Confidence: 0.848003487

00:29:30.230 --> 00:29:32.305 and that's why so far we haven't

NOTE Confidence: 0.848003487

00:29:32.305 --> 00:29:34.361 been able to get a strong associate a

NOTE Confidence: 0.848003487

00:29:34.422 --> 00:29:36.564 causation for a lot of these conditions.

NOTE Confidence: 0.848003487

00:29:36.570 --> 00:29:39.950 There remains just an association.

NOTE Confidence: 0.848003487

00:29:39.950 --> 00:29:40.239 However,

NOTE Confidence: 0.848003487

00:29:40.239 --> 00:29:41.973 with floppy eyelid the strongest as

NOTE Confidence: 0.848003487

00:29:41.973 --> 00:29:43.900 though she does remain a sleep apnea,

NOTE Confidence: 0.848003487

00:29:43.900 --> 00:29:46.348 and so in some present studies

NOTE Confidence: 0.848003487

00:29:46.350 --> 00:29:48.912 the the incident of sleep apnea

NOTE Confidence: 0.848003487

00:29:48.912 --> 00:29:51.079 patients were floppy eyelid syndrome

NOTE Confidence: 0.848003487

00:29:51.079 --> 00:29:53.009 ranges from 96 to 100%,

NOTE Confidence: 0.848003487

00:29:53.010 --> 00:29:55.824 which is which is pretty pretty significant.

NOTE Confidence: 0.848003487

00:29:55.830 --> 00:29:57.950 The mechanisms behind floppy

NOTE Confidence: 0.848003487

00:29:57.950 --> 00:30:00.600 outlet syndrome and sleep apnea,

NOTE Confidence: 0.848003487

00:30:00.600 --> 00:30:02.196 so you can have mechanical stress

NOTE Confidence: 0.848003487

00:30:02.196 --> 00:30:04.000 from from rubbing and stretching the

NOTE Confidence: 0.848003487

00:30:04.000 --> 00:30:05.725 eyelid during sleep against pillow.  
NOTE Confidence: 0.848003487

00:30:05.730 --> 00:30:07.586 This is seen to occur more frequently in  
NOTE Confidence: 0.848003487

00:30:07.586 --> 00:30:09.388 people that have fragmented or disrupted.  
NOTE Confidence: 0.848003487

00:30:09.390 --> 00:30:11.375 Deep there's a scheming reperfusion  
NOTE Confidence: 0.848003487

00:30:11.375 --> 00:30:13.360 injury that results from tissue  
NOTE Confidence: 0.848003487

00:30:13.428 --> 00:30:15.473 that results in tissue inflammation  
NOTE Confidence: 0.848003487

00:30:15.473 --> 00:30:17.109 during periods of hypoxia.  
NOTE Confidence: 0.848003487

00:30:17.110 --> 00:30:19.160 Pathologies actually shown loss of  
NOTE Confidence: 0.848003487

00:30:19.160 --> 00:30:22.044 elastin fibers in the tarsal plates of  
NOTE Confidence: 0.848003487

00:30:22.044 --> 00:30:24.725 some of these patients with floppy eyelids,  
NOTE Confidence: 0.848003487

00:30:24.730 --> 00:30:26.575 and then there's elevated leptin  
NOTE Confidence: 0.848003487

00:30:26.575 --> 00:30:28.051 and MMP matrix metalloproteinases  
NOTE Confidence: 0.848003487

00:30:28.051 --> 00:30:30.187 in these patients with sleep apnea.  
NOTE Confidence: 0.848003487

00:30:30.190 --> 00:30:31.965 That's also been associated with  
NOTE Confidence: 0.848003487

00:30:31.965 --> 00:30:33.385 a floppy eyelid syndrome.  
NOTE Confidence: 0.848003487

00:30:33.390 --> 00:30:35.847 And so we we have all these

NOTE Confidence: 0.848003487

00:30:35.847 --> 00:30:36.549 proposed mechanisms.

NOTE Confidence: 0.848003487

00:30:36.550 --> 00:30:39.736 There's no way to link the two again because.

NOTE Confidence: 0.848003487

00:30:39.740 --> 00:30:42.620 A lot of systemic disorders overlap

NOTE Confidence: 0.848003487

00:30:42.620 --> 00:30:44.540 between these two conditions.

NOTE Confidence: 0.848003487

00:30:44.540 --> 00:30:46.188 And so let's say we do get some.

NOTE Confidence: 0.848003487

00:30:46.190 --> 00:30:48.094 We referred to us for floppy eyelid.

NOTE Confidence: 0.848003487

00:30:48.100 --> 00:30:50.340 Or we have somebody that comes in

NOTE Confidence: 0.848003487

00:30:50.340 --> 00:30:52.502 has sleep apnea has been diagnosed

NOTE Confidence: 0.848003487

00:30:52.502 --> 00:30:54.752 with and is being treated with CPAP

NOTE Confidence: 0.848003487

00:30:54.752 --> 00:30:57.135 and they complain if I issues such

NOTE Confidence: 0.848003487

00:30:57.135 --> 00:30:58.910 as something that suggests floppy

NOTE Confidence: 0.848003487

00:30:58.910 --> 00:31:01.099 eyelids or pathway conjunctivitis.

NOTE Confidence: 0.848003487

00:31:01.100 --> 00:31:02.570 I think we should recognize

NOTE Confidence: 0.848003487

00:31:02.570 --> 00:31:04.412 this condition and send them to

NOTE Confidence: 0.848003487

00:31:04.412 --> 00:31:05.987 optomology for a full evaluation.

NOTE Confidence: 0.769818606666667

00:31:08.070 --> 00:31:10.128 Usually the treatment is pretty conservative.

NOTE Confidence: 0.769818606666667

00:31:10.130 --> 00:31:11.810 We talk about weight loss since it

NOTE Confidence: 0.769818606666667

00:31:11.810 --> 00:31:13.309 is associated with obesity as well.

NOTE Confidence: 0.769818606666667

00:31:13.310 --> 00:31:15.470 So sleep apnea, eye Shields,

NOTE Confidence: 0.769818606666667

00:31:15.470 --> 00:31:18.068 protecting the cornea lubrication if needed.

NOTE Confidence: 0.769818606666667

00:31:18.070 --> 00:31:19.165 Ophthalmic steroids and

NOTE Confidence: 0.769818606666667

00:31:19.165 --> 00:31:20.625 antibiotics if ultimately needed.

NOTE Confidence: 0.769818606666667

00:31:20.630 --> 00:31:22.724 Which is why I referred to

NOTE Confidence: 0.769818606666667

00:31:22.724 --> 00:31:24.840 ophthalmology would be very important.

NOTE Confidence: 0.769818606666667

00:31:24.840 --> 00:31:26.865 There's also evidence that treating

NOTE Confidence: 0.769818606666667

00:31:26.865 --> 00:31:29.196 these people with PAC therapies so

NOTE Confidence: 0.769818606666667

00:31:29.196 --> 00:31:31.100 CPAP does reduce the disease burden

NOTE Confidence: 0.769818606666667

00:31:31.100 --> 00:31:33.755 itself and so makes them less likely

NOTE Confidence: 0.769818606666667

00:31:33.755 --> 00:31:36.015 to have the Calgary conjunctivitis.

NOTE Confidence: 0.769818606666667

00:31:36.020 --> 00:31:37.740 Which is the biggest issue,

NOTE Confidence: 0.769818606666667

00:31:37.740 --> 00:31:41.139 at least irritation.

NOTE Confidence: 0.769818606666667  
00:31:41.140 --> 00:31:41.657 Glaucoma.  
NOTE Confidence: 0.769818606666667  
00:31:41.657 --> 00:31:44.242 It's another group of ophthalmic  
NOTE Confidence: 0.769818606666667  
00:31:44.242 --> 00:31:46.310 condition that's been associated  
NOTE Confidence: 0.769818606666667  
00:31:46.385 --> 00:31:48.336 with with sleep fragmentation and  
NOTE Confidence: 0.769818606666667  
00:31:48.336 --> 00:31:50.168 so essentially characterized by  
NOTE Confidence: 0.769818606666667  
00:31:50.168 --> 00:31:52.706 progressive optic neuropathy with a slow  
NOTE Confidence: 0.769818606666667  
00:31:52.706 --> 00:31:54.331 degeneration of the retinal ganglion  
NOTE Confidence: 0.769818606666667  
00:31:54.331 --> 00:31:56.360 that results in visual field loss.  
NOTE Confidence: 0.769818606666667  
00:31:56.360 --> 00:31:58.984 A lot of patients that will have glaucoma  
NOTE Confidence: 0.769818606666667  
00:31:58.984 --> 00:32:01.118 actually present very late in the disease.  
NOTE Confidence: 0.769818606666667  
00:32:01.120 --> 00:32:03.280 The reason being usually glaucoma  
NOTE Confidence: 0.769818606666667  
00:32:03.280 --> 00:32:05.440 presents with peripheral vision loss  
NOTE Confidence: 0.769818606666667  
00:32:05.510 --> 00:32:08.030 and so all the time they have vision  
NOTE Confidence: 0.769818606666667  
00:32:08.030 --> 00:32:09.898 loss affecting the central vision.  
NOTE Confidence: 0.769818606666667  
00:32:09.900 --> 00:32:10.838 They will.  
NOTE Confidence: 0.769818606666667

00:32:10.838 --> 00:32:14.590 They will be pretty far into their disease.  
NOTE Confidence: 0.769818606666667

00:32:14.590 --> 00:32:17.102 It is the second most common cause of  
NOTE Confidence: 0.769818606666667

00:32:17.102 --> 00:32:19.618 blindness and 2nd and the most common  
NOTE Confidence: 0.769818606666667

00:32:19.618 --> 00:32:21.438 cause of irreversible blindness and  
NOTE Confidence: 0.769818606666667

00:32:21.500 --> 00:32:23.720 the most competent type of glaucoma  
NOTE Confidence: 0.769818606666667

00:32:23.720 --> 00:32:25.570 is primary open angle glaucoma,  
NOTE Confidence: 0.769818606666667

00:32:25.570 --> 00:32:25.917 POG.  
NOTE Confidence: 0.769818606666667

00:32:25.917 --> 00:32:27.999 There is studies showing that the  
NOTE Confidence: 0.769818606666667

00:32:27.999 --> 00:32:30.366 province of sleep apnea in patients with  
NOTE Confidence: 0.769818606666667

00:32:30.366 --> 00:32:32.681 either one of these types of glaucoma  
NOTE Confidence: 0.769818606666667

00:32:32.681 --> 00:32:35.358 can be highest 27% compared to 2%  
NOTE Confidence: 0.769818606666667

00:32:35.358 --> 00:32:37.368 prevalence in the general population,  
NOTE Confidence: 0.769818606666667

00:32:37.370 --> 00:32:39.197 so you know it's nine times as  
NOTE Confidence: 0.769818606666667

00:32:39.197 --> 00:32:41.078 high in some of these studies.  
NOTE Confidence: 0.769818606666667

00:32:41.080 --> 00:32:45.310 Link glaucoma to sleep apnea.  
NOTE Confidence: 0.769818606666667

00:32:45.310 --> 00:32:47.816 These are some of these prevalence studies,



NOTE Confidence: 0.769818606666667

00:32:47.820 --> 00:32:50.478 so people diagnosed with primary open

NOTE Confidence: 0.769818606666667

00:32:50.478 --> 00:32:53.514 angle alcoma 20% had sleep apnea.

NOTE Confidence: 0.769818606666667

00:32:53.514 --> 00:32:54.951 Normal tension 44%.

NOTE Confidence: 0.769818606666667

00:32:54.951 --> 00:32:57.058 You can see some of these are

NOTE Confidence: 0.769818606666667

00:32:57.058 --> 00:32:59.029 just very small case studies,

NOTE Confidence: 0.769818606666667

00:32:59.030 --> 00:33:01.179 the biggest one being about 600 patients.

NOTE Confidence: 0.895979855

00:33:03.390 --> 00:33:04.782 But there's a lot of overlap

NOTE Confidence: 0.895979855

00:33:04.782 --> 00:33:05.710 between these two conditions,

NOTE Confidence: 0.895979855

00:33:05.710 --> 00:33:07.410 so again, it's an association.

NOTE Confidence: 0.895979855

00:33:07.410 --> 00:33:09.250 It's something that we,

NOTE Confidence: 0.895979855

00:33:09.250 --> 00:33:11.090 as sleep physicians sleep

NOTE Confidence: 0.895979855

00:33:11.090 --> 00:33:12.920 specially should be aware of.

NOTE Confidence: 0.895979855

00:33:12.920 --> 00:33:15.104 And and and and know to recognize

NOTE Confidence: 0.895979855

00:33:15.104 --> 00:33:16.470 and the suspected pathophysiology

NOTE Confidence: 0.895979855

00:33:16.470 --> 00:33:18.997 is not so different from the other

NOTE Confidence: 0.895979855

00:33:18.997 --> 00:33:21.260 two that we talked about already.  
NOTE Confidence: 0.895979855

00:33:21.260 --> 00:33:23.030 General risk factors being about  
NOTE Confidence: 0.895979855

00:33:23.030 --> 00:33:24.800 the same increased age genetics,  
NOTE Confidence: 0.895979855

00:33:24.800 --> 00:33:26.906 a thin cornea and elevated intraocular  
NOTE Confidence: 0.895979855

00:33:26.906 --> 00:33:29.154 pressure are the most commonly cited  
NOTE Confidence: 0.895979855

00:33:29.154 --> 00:33:31.114 risk factors for this condition.  
NOTE Confidence: 0.895979855

00:33:31.120 --> 00:33:32.620 However, the proposed mechanism  
NOTE Confidence: 0.895979855

00:33:32.620 --> 00:33:34.495 linking glaucoma and sleep apnea  
NOTE Confidence: 0.895979855

00:33:34.495 --> 00:33:36.439 include direct hypoxic injury to the  
NOTE Confidence: 0.895979855

00:33:36.439 --> 00:33:38.320 optic nerve during periods of apnea.  
NOTE Confidence: 0.895979855

00:33:38.320 --> 00:33:39.982 We can also have disrupted auto  
NOTE Confidence: 0.895979855

00:33:39.982 --> 00:33:41.691 regulation like we did in patients  
NOTE Confidence: 0.895979855

00:33:41.691 --> 00:33:43.602 with N ion that leads to optimistic.  
NOTE Confidence: 0.895979855

00:33:43.610 --> 00:33:44.274 Uptake,  
NOTE Confidence: 0.895979855

00:33:44.274 --> 00:33:47.195 nerve injury and then reperfusion  
NOTE Confidence: 0.895979855

00:33:47.195 --> 00:33:49.050 and then you can also have increased

NOTE Confidence: 0.895979855

00:33:49.050 --> 00:33:50.512 IOP during fall periods of apnea

NOTE Confidence: 0.895979855

00:33:50.512 --> 00:33:52.359 like we talked about so you can see

NOTE Confidence: 0.895979855

00:33:52.359 --> 00:33:53.787 there's a lot of overlap between

NOTE Confidence: 0.895979855

00:33:53.787 --> 00:33:55.966 the proposed mechanisms for a lot

NOTE Confidence: 0.895979855

00:33:55.966 --> 00:33:58.086 of these conditions because they

NOTE Confidence: 0.895979855

00:33:58.086 --> 00:34:00.709 hold true to a lot of sleep apnea.

NOTE Confidence: 0.895979855

00:34:00.710 --> 00:34:02.492 So what do we do for these patients that

NOTE Confidence: 0.895979855

00:34:02.492 --> 00:34:04.186 have chronic sleep apnea and glaucoma?

NOTE Confidence: 0.895979855

00:34:04.190 --> 00:34:05.076 You know,

NOTE Confidence: 0.895979855

00:34:05.076 --> 00:34:07.734 if we get somebody that's been.

NOTE Confidence: 0.895979855

00:34:07.740 --> 00:34:09.186 Valued for glaucoma and coming to

NOTE Confidence: 0.895979855

00:34:09.186 --> 00:34:10.510 us for a sleep study,

NOTE Confidence: 0.895979855

00:34:10.510 --> 00:34:11.830 we should obviously study them

NOTE Confidence: 0.895979855

00:34:11.830 --> 00:34:13.745 and recognize that a lot of these

NOTE Confidence: 0.895979855

00:34:13.745 --> 00:34:15.110 patients might not screen very

NOTE Confidence: 0.895979855

00:34:15.110 --> 00:34:16.800 highly with their traditional stop,  
NOTE Confidence: 0.895979855

00:34:16.800 --> 00:34:17.079 bang,  
NOTE Confidence: 0.895979855

00:34:17.079 --> 00:34:19.311 Epworth and so a home sleep study might  
NOTE Confidence: 0.895979855

00:34:19.311 --> 00:34:21.648 not be the right test for these people,  
NOTE Confidence: 0.895979855

00:34:21.650 --> 00:34:24.346 and PSC would probably be the study to  
NOTE Confidence: 0.895979855

00:34:24.346 --> 00:34:26.630 to perform in these patients because  
NOTE Confidence: 0.895979855

00:34:26.630 --> 00:34:28.480 of the low pretest probability,  
NOTE Confidence: 0.895979855

00:34:28.480 --> 00:34:29.872 they have high pretest,  
NOTE Confidence: 0.895979855

00:34:29.872 --> 00:34:30.916 probability and glaucoma.  
NOTE Confidence: 0.895979855

00:34:30.920 --> 00:34:32.103 You know, I think the right step  
NOTE Confidence: 0.895979855

00:34:32.103 --> 00:34:33.380 is a home sleep apnea study,  
NOTE Confidence: 0.895979855

00:34:33.380 --> 00:34:34.997 but just to be aware of that,  
NOTE Confidence: 0.895979855

00:34:35.000 --> 00:34:36.830 a home sleep apnea test is  
NOTE Confidence: 0.895979855

00:34:36.830 --> 00:34:37.745 not effectively without.  
NOTE Confidence: 0.895979855

00:34:37.750 --> 00:34:39.433 Uh, sleep disorder.  
NOTE Confidence: 0.895979855

00:34:39.433 --> 00:34:41.677 Breathing in these patients.

NOTE Confidence: 0.895979855

00:34:41.680 --> 00:34:44.046 We should also recognize that a lot

NOTE Confidence: 0.895979855

00:34:44.046 --> 00:34:45.815 of ophthalmologists will refer to us

NOTE Confidence: 0.895979855

00:34:45.815 --> 00:34:47.840 to do a sleep study when they have

NOTE Confidence: 0.895979855

00:34:47.840 --> 00:34:49.580 a patient with these conditions,

NOTE Confidence: 0.895979855

00:34:49.580 --> 00:34:51.799 but us as sleep physicians and a

NOTE Confidence: 0.895979855

00:34:51.799 --> 00:34:54.017 patient complaining to us of visual defects,

NOTE Confidence: 0.895979855

00:34:54.020 --> 00:34:55.084 visual loss,

NOTE Confidence: 0.895979855

00:34:55.084 --> 00:34:56.680 peripheral vision problems,

NOTE Confidence: 0.895979855

00:34:56.680 --> 00:34:59.200 they have other risk factors such as

NOTE Confidence: 0.895979855

00:34:59.200 --> 00:35:02.050 advanced age or or atherosclerosis

NOTE Confidence: 0.895979855

00:35:02.050 --> 00:35:03.470 risk factors.

NOTE Confidence: 0.895979855

00:35:03.470 --> 00:35:05.294 We should refer them to optimize be like,

NOTE Confidence: 0.895979855

00:35:05.300 --> 00:35:05.700 hey,

NOTE Confidence: 0.895979855

00:35:05.700 --> 00:35:08.500 have you had your eyes examined recently?

NOTE Confidence: 0.895979855

00:35:08.500 --> 00:35:10.116 Because a lot of these times if we

NOTE Confidence: 0.895979855

00:35:10.116 --> 00:35:11.580 catch the glaucoma early enough,  
NOTE Confidence: 0.895979855

00:35:11.580 --> 00:35:12.699 we can minimize.  
NOTE Confidence: 0.895979855

00:35:12.699 --> 00:35:14.937 Visual field loss going into the  
NOTE Confidence: 0.895979855

00:35:14.937 --> 00:35:17.650 future because it's usually irreversible.  
NOTE Confidence: 0.895979855

00:35:17.650 --> 00:35:18.926 Typically we manage glaucoma  
NOTE Confidence: 0.895979855

00:35:18.926 --> 00:35:20.521 using topical drugs to lower  
NOTE Confidence: 0.895979855

00:35:20.521 --> 00:35:21.990 the intraocular pressure,  
NOTE Confidence: 0.895979855

00:35:21.990 --> 00:35:24.570 and sometimes surgeries required and again  
NOTE Confidence: 0.895979855

00:35:24.570 --> 00:35:27.656 small case series that should benefit of  
NOTE Confidence: 0.895979855

00:35:27.656 --> 00:35:30.254 PAP therapy and improving normal tension.  
NOTE Confidence: 0.895979855

00:35:30.260 --> 00:35:30.758 Glaucoma,  
NOTE Confidence: 0.895979855

00:35:30.758 --> 00:35:32.252 not primary angle,  
NOTE Confidence: 0.895979855

00:35:32.252 --> 00:35:33.746 open angle glaucoma,  
NOTE Confidence: 0.895979855

00:35:33.750 --> 00:35:35.230 and actually improving the visual  
NOTE Confidence: 0.895979855

00:35:35.230 --> 00:35:36.710 field deficit in these patients.  
NOTE Confidence: 0.895979855

00:35:36.710 --> 00:35:38.942 So I think as we continue to evolve

NOTE Confidence: 0.895979855

00:35:38.942 --> 00:35:40.649 and recognize these associations,

NOTE Confidence: 0.895979855

00:35:40.650 --> 00:35:43.038 ultimately leading to a causation theory.

NOTE Confidence: 0.895979855

00:35:43.040 --> 00:35:45.119 Will be able to kind of propose

NOTE Confidence: 0.895979855

00:35:45.119 --> 00:35:47.009 pack therapy and treat underlying

NOTE Confidence: 0.895979855

00:35:47.009 --> 00:35:49.334 sleep disorder breathing for these

NOTE Confidence: 0.895979855

00:35:49.334 --> 00:35:51.700 patients and and minimize the

NOTE Confidence: 0.895979855

00:35:51.700 --> 00:35:53.600 morbidity associated with them.

NOTE Confidence: 0.899176413333333

00:35:56.660 --> 00:35:58.478 Moving on a little bit further,

NOTE Confidence: 0.899176413333333

00:35:58.480 --> 00:36:01.210 so there is also lots of lots of data out

NOTE Confidence: 0.899176413333333

00:36:01.285 --> 00:36:04.048 there and it keeps coming out in the last

NOTE Confidence: 0.899176413333333

00:36:04.048 --> 00:36:06.372 five years about the gastrointestinal

NOTE Confidence: 0.899176413333333

00:36:06.372 --> 00:36:09.294 or GI manifestations of sleep disorders.

NOTE Confidence: 0.899176413333333

00:36:09.300 --> 00:36:11.514 There's been lots of studies showing

NOTE Confidence: 0.899176413333333

00:36:11.514 --> 00:36:13.414 a strong association between sleep

NOTE Confidence: 0.899176413333333

00:36:13.414 --> 00:36:15.890 disorders and GI diseases, and it appears

NOTE Confidence: 0.899176413333333

00:36:15.890 --> 00:36:18.640 to be back and forth between the two.  
NOTE Confidence: 0.8991764133333333

00:36:18.640 --> 00:36:21.280 So I think sleep fragmentation sleep  
NOTE Confidence: 0.8991764133333333

00:36:21.280 --> 00:36:24.123 disruption leads to a lot of symptoms.  
NOTE Confidence: 0.8991764133333333

00:36:24.123 --> 00:36:27.924 Daytime GI symptoms, on the other hand,  
NOTE Confidence: 0.8991764133333333

00:36:27.930 --> 00:36:29.705 nocturnal GI symptoms and diseases  
NOTE Confidence: 0.8991764133333333

00:36:29.705 --> 00:36:33.070 such as IBS, IBD, leads to poor sleep,  
NOTE Confidence: 0.8991764133333333

00:36:33.070 --> 00:36:34.390 insomnia, sleep fragmentation,  
NOTE Confidence: 0.8991764133333333

00:36:34.390 --> 00:36:37.794 which can be a perpetual cycle between the  
NOTE Confidence: 0.8991764133333333

00:36:37.794 --> 00:36:39.858 two, and so I'll talk about a few here.  
NOTE Confidence: 0.8991764133333333

00:36:39.860 --> 00:36:41.692 We'll talk about gastroesophageal  
NOTE Confidence: 0.8991764133333333

00:36:41.692 --> 00:36:43.524 reflux disease or GERD.  
NOTE Confidence: 0.8991764133333333

00:36:43.530 --> 00:36:45.150 We'll talk about little bowel syndrome,  
NOTE Confidence: 0.8991764133333333

00:36:45.150 --> 00:36:47.678 IBS inflammatory bowel disease,  
NOTE Confidence: 0.8991764133333333

00:36:47.678 --> 00:36:49.182 IBD, colorectal cancer,  
NOTE Confidence: 0.8991764133333333

00:36:49.182 --> 00:36:51.798 and non alcoholic fatty liver disease.  
NOTE Confidence: 0.774512936142857

00:36:54.040 --> 00:36:56.625 So gastroesophageal reflux disease is



NOTE Confidence: 0.774512936142857

00:36:56.625 --> 00:36:59.380 is very, very common in sleep apnea.

NOTE Confidence: 0.774512936142857

00:36:59.380 --> 00:37:02.236 Nearly 80% of patients with GERD complain

NOTE Confidence: 0.774512936142857

00:37:02.236 --> 00:37:04.196 of nocturnal symptoms and ultimately

NOTE Confidence: 0.774512936142857

00:37:04.196 --> 00:37:07.280 complain of poor sleep as a result of this,

NOTE Confidence: 0.774512936142857

00:37:07.280 --> 00:37:09.240 and GERD symptoms are found to be

NOTE Confidence: 0.774512936142857

00:37:09.240 --> 00:37:11.615 three times as more likely in patients

NOTE Confidence: 0.774512936142857

00:37:11.615 --> 00:37:13.455 with insomnia compared to patients

NOTE Confidence: 0.774512936142857

00:37:13.455 --> 00:37:15.457 with no sleep complaints at all.

NOTE Confidence: 0.774512936142857

00:37:15.460 --> 00:37:17.820 So I know when we evaluate patients for

NOTE Confidence: 0.774512936142857

00:37:17.820 --> 00:37:19.524 insomnia, we're kind of trying to figure

NOTE Confidence: 0.774512936142857

00:37:19.524 --> 00:37:20.880 out what's the underlying ideology.

NOTE Confidence: 0.774512936142857

00:37:20.880 --> 00:37:22.476 Do they need a sleep study?

NOTE Confidence: 0.774512936142857

00:37:22.480 --> 00:37:24.350 What else are they doing?

NOTE Confidence: 0.774512936142857

00:37:24.350 --> 00:37:26.262 Girl is not one of the things that

NOTE Confidence: 0.774512936142857

00:37:26.262 --> 00:37:28.007 we frequently ask about that could

NOTE Confidence: 0.774512936142857

00:37:28.007 --> 00:37:29.527 be contributing to their insomnia.  
NOTE Confidence: 0.774512936142857

00:37:29.530 --> 00:37:32.340 Often we'll ask about sleep  
NOTE Confidence: 0.774512936142857

00:37:32.340 --> 00:37:34.588 fragmentation or less medications,  
NOTE Confidence: 0.774512936142857

00:37:34.590 --> 00:37:35.990 sleep, hygiene, sleep restriction,  
NOTE Confidence: 0.774512936142857

00:37:35.990 --> 00:37:37.740 but we might be surprised  
NOTE Confidence: 0.774512936142857

00:37:37.740 --> 00:37:39.329 that you know they're like,  
NOTE Confidence: 0.774512936142857

00:37:39.330 --> 00:37:43.330 Oh my heartburn keeps me like a lot of times.  
NOTE Confidence: 0.774512936142857

00:37:43.330 --> 00:37:45.355 There's also seem very commonly  
NOTE Confidence: 0.774512936142857

00:37:45.355 --> 00:37:47.380 in patients with sleep apnea,  
NOTE Confidence: 0.774512936142857

00:37:47.380 --> 00:37:49.336 and it's been associated with high  
NOTE Confidence: 0.774512936142857

00:37:49.336 --> 00:37:50.640 grade esophagitis and subsequent  
NOTE Confidence: 0.774512936142857

00:37:50.694 --> 00:37:52.398 development and Barretts esophagus.  
NOTE Confidence: 0.774512936142857

00:37:52.400 --> 00:37:53.438 So it's some.  
NOTE Confidence: 0.774512936142857

00:37:53.438 --> 00:37:55.860 It's a it's a culinary condition that  
NOTE Confidence: 0.774512936142857

00:37:55.937 --> 00:37:58.247 we need to be definitely aware of.  
NOTE Confidence: 0.774512936142857

00:37:58.250 --> 00:37:59.986 Why do we think this such an

NOTE Confidence: 0.774512936142857

00:37:59.986 --> 00:38:00.980 overlap between these two?

NOTE Confidence: 0.774512936142857

00:38:00.980 --> 00:38:03.269 One of the proposed mechanisms is that

NOTE Confidence: 0.774512936142857

00:38:03.269 --> 00:38:05.047 sleep apnea itself causes intrathoracic

NOTE Confidence: 0.774512936142857

00:38:05.047 --> 00:38:06.882 pressure swings that can reduce

NOTE Confidence: 0.774512936142857

00:38:06.882 --> 00:38:09.234 the tone of the lower esophageal

NOTE Confidence: 0.774512936142857

00:38:09.234 --> 00:38:11.209 sphincter and then promote reflux.

NOTE Confidence: 0.774512936142857

00:38:11.210 --> 00:38:11.511 Subsequently,

NOTE Confidence: 0.774512936142857

00:38:11.511 --> 00:38:13.618 the other studies that have gone back

NOTE Confidence: 0.774512936142857

00:38:13.618 --> 00:38:15.483 to look at this using esophageal

NOTE Confidence: 0.774512936142857

00:38:15.483 --> 00:38:17.289 probes and during periods of apnea

NOTE Confidence: 0.774512936142857

00:38:17.348 --> 00:38:19.250 it did not show this intrathoracic

NOTE Confidence: 0.774512936142857

00:38:19.250 --> 00:38:20.874 pressure swing that reduced the

NOTE Confidence: 0.774512936142857

00:38:20.874 --> 00:38:22.290 lower self vaginal tone,

NOTE Confidence: 0.774512936142857

00:38:22.290 --> 00:38:24.906 so it's hard to prove whether or not

NOTE Confidence: 0.774512936142857

00:38:24.906 --> 00:38:27.560 that's an actual contributing factor.

NOTE Confidence: 0.774512936142857

00:38:27.560 --> 00:38:28.604 This is normal,  
NOTE Confidence: 0.774512936142857

00:38:28.604 --> 00:38:29.996 but during sleep there's  
NOTE Confidence: 0.774512936142857

00:38:29.996 --> 00:38:31.040 decreased swallowing reflex.  
NOTE Confidence: 0.774512936142857

00:38:31.040 --> 00:38:33.192 There's decreased salivary secretion  
NOTE Confidence: 0.774512936142857

00:38:33.192 --> 00:38:35.882 and prolonged esophageal clearance time,  
NOTE Confidence: 0.774512936142857

00:38:35.890 --> 00:38:37.024 so you can see when we're  
NOTE Confidence: 0.774512936142857

00:38:37.024 --> 00:38:37.780 not eating and drinking,  
NOTE Confidence: 0.774512936142857

00:38:37.780 --> 00:38:40.750 as as we do at night and everything kind  
NOTE Confidence: 0.774512936142857

00:38:40.750 --> 00:38:43.695 of slows down and esophagus is less,  
NOTE Confidence: 0.774512936142857

00:38:43.700 --> 00:38:44.810 having less prosthesis.  
NOTE Confidence: 0.774512936142857

00:38:44.810 --> 00:38:47.030 You can have increase in symptoms  
NOTE Confidence: 0.774512936142857

00:38:47.030 --> 00:38:49.258 of heartburn and reflux as night  
NOTE Confidence: 0.774512936142857

00:38:49.260 --> 00:38:51.020 obesity also appears to worsen.  
NOTE Confidence: 0.774512936142857

00:38:51.020 --> 00:38:52.340 Symptoms of sleep apnea angered  
NOTE Confidence: 0.774512936142857

00:38:52.340 --> 00:38:54.474 and you can see this is a common  
NOTE Confidence: 0.774512936142857

00:38:54.474 --> 00:38:55.490 factor between the two.

NOTE Confidence: 0.85265112

00:38:57.880 --> 00:38:59.465 There's very, very good quality

NOTE Confidence: 0.85265112

00:38:59.465 --> 00:39:00.733 evidence out there actually,

NOTE Confidence: 0.85265112

00:39:00.740 --> 00:39:03.896 that nasal CPAP reduces your frequency,

NOTE Confidence: 0.85265112

00:39:03.900 --> 00:39:05.307 and so it's something that we should

NOTE Confidence: 0.85265112

00:39:05.307 --> 00:39:06.840 encourage a lot of our patients to use,

NOTE Confidence: 0.85265112

00:39:06.840 --> 00:39:09.010 especially if GERD is one of the

NOTE Confidence: 0.85265112

00:39:09.010 --> 00:39:10.878 reasons that they're awake at night.

NOTE Confidence: 0.85265112

00:39:10.880 --> 00:39:11.570 Even more importantly,

NOTE Confidence: 0.85265112

00:39:11.570 --> 00:39:13.599 and this we've run into a couple of times,

NOTE Confidence: 0.85265112

00:39:13.600 --> 00:39:15.988 his patients that have GERD with

NOTE Confidence: 0.85265112

00:39:15.988 --> 00:39:17.580 primarily nocturnal symptoms will

NOTE Confidence: 0.85265112

00:39:17.643 --> 00:39:19.876 actually use their CPAP less and and

NOTE Confidence: 0.85265112

00:39:19.876 --> 00:39:22.054 comply less with their CPAP because

NOTE Confidence: 0.85265112

00:39:22.054 --> 00:39:23.974 in nocturnal symptoms from GERD,

NOTE Confidence: 0.85265112

00:39:23.980 --> 00:39:25.352 actually inhibiting them from

NOTE Confidence: 0.85265112

00:39:25.352 --> 00:39:27.067 wearing the CPAP and so.  
NOTE Confidence: 0.85265112

00:39:27.070 --> 00:39:28.670 It's very important for us to recognize this,  
NOTE Confidence: 0.85265112

00:39:28.670 --> 00:39:29.680 saying that if they do  
NOTE Confidence: 0.85265112

00:39:29.680 --> 00:39:30.286 have heartburn symptoms,  
NOTE Confidence: 0.85265112

00:39:30.290 --> 00:39:32.831 we need to make sure they're adequately  
NOTE Confidence: 0.85265112

00:39:32.831 --> 00:39:34.707 treated and referred to GI if if,  
NOTE Confidence: 0.85265112

00:39:34.710 --> 00:39:35.398 if appropriate,  
NOTE Confidence: 0.85265112

00:39:35.398 --> 00:39:37.462 because it will help them actually  
NOTE Confidence: 0.85265112

00:39:37.462 --> 00:39:39.608 keep their CPAP on and night and  
NOTE Confidence: 0.85265112

00:39:39.608 --> 00:39:41.798 not have untreated sleep apnea.  
NOTE Confidence: 0.858125870909091

00:39:43.930 --> 00:39:45.545 IBS has also been associated  
NOTE Confidence: 0.858125870909091

00:39:45.545 --> 00:39:47.970 with a lot of sleep conditions.  
NOTE Confidence: 0.858125870909091

00:39:47.970 --> 00:39:50.833 Patients with IBS report poor sleep and  
NOTE Confidence: 0.858125870909091

00:39:50.833 --> 00:39:53.450 they have increased arousal thresholds.  
NOTE Confidence: 0.858125870909091

00:39:53.450 --> 00:39:55.065 There's also evidence of decreased  
NOTE Confidence: 0.858125870909091

00:39:55.065 --> 00:39:56.357 nighttime melatonin and tryptophan

NOTE Confidence: 0.858125870909091  
00:39:56.357 --> 00:39:57.490 levels in these patients,  
NOTE Confidence: 0.858125870909091  
00:39:57.490 --> 00:39:59.702 so you can see these patients have  
NOTE Confidence: 0.858125870909091  
00:39:59.702 --> 00:40:01.370 are predisposed to fragmented,  
NOTE Confidence: 0.858125870909091  
00:40:01.370 --> 00:40:03.906 poor quality sleep at night to begin with.  
NOTE Confidence: 0.858125870909091  
00:40:03.910 --> 00:40:05.438 On top of that,  
NOTE Confidence: 0.858125870909091  
00:40:05.438 --> 00:40:08.198 they might have RLS and and this can  
NOTE Confidence: 0.858125870909091  
00:40:08.198 --> 00:40:10.410 contribute to their poor sleep as well.  
NOTE Confidence: 0.858125870909091  
00:40:10.410 --> 00:40:11.865 This was a very interesting  
NOTE Confidence: 0.858125870909091  
00:40:11.865 --> 00:40:13.029 study I came across,  
NOTE Confidence: 0.858125870909091  
00:40:13.030 --> 00:40:14.950 so there was 205 resident.  
NOTE Confidence: 0.858125870909091  
00:40:14.950 --> 00:40:17.400 Positions working in a hospital  
NOTE Confidence: 0.858125870909091  
00:40:17.400 --> 00:40:19.850 that were screened and evaluated  
NOTE Confidence: 0.858125870909091  
00:40:19.931 --> 00:40:21.780 for IBS and 20% of them,  
NOTE Confidence: 0.858125870909091  
00:40:21.780 --> 00:40:24.580 nearly 20% of them met criteria as per  
NOTE Confidence: 0.858125870909091  
00:40:24.656 --> 00:40:27.660 the Rome 3 guidelines for IBS and when  
NOTE Confidence: 0.858125870909091

00:40:27.660 --> 00:40:29.820 they broke this down even further,  
NOTE Confidence: 0.858125870909091

00:40:29.820 --> 00:40:32.058 they realized in those residents that  
NOTE Confidence: 0.858125870909091

00:40:32.058 --> 00:40:34.908 met criteria for IBS for every one hour  
NOTE Confidence: 0.858125870909091

00:40:34.908 --> 00:40:37.419 less asleep that they got while on call,  
NOTE Confidence: 0.858125870909091

00:40:37.420 --> 00:40:39.385 there was a 33% increase  
NOTE Confidence: 0.858125870909091

00:40:39.385 --> 00:40:40.957 in their IBS symptoms,  
NOTE Confidence: 0.858125870909091

00:40:40.960 --> 00:40:44.416 and so to all the trainees out there,  
NOTE Confidence: 0.858125870909091

00:40:44.420 --> 00:40:44.842 future trainees.  
NOTE Confidence: 0.858125870909091

00:40:44.842 --> 00:40:46.108 You know next time they ask  
NOTE Confidence: 0.858125870909091

00:40:46.108 --> 00:40:47.410 you to take overnight call,  
NOTE Confidence: 0.858125870909091

00:40:47.410 --> 00:40:49.530 you can just blame this study and say,  
NOTE Confidence: 0.858125870909091

00:40:49.530 --> 00:40:51.372 well I can't take anymore call  
NOTE Confidence: 0.858125870909091

00:40:51.372 --> 00:40:53.629 because my IBS is going to flare.  
NOTE Confidence: 0.858125870909091

00:40:53.630 --> 00:40:56.584 There's good evidence for it out there.  
NOTE Confidence: 0.858125870909091

00:40:56.590 --> 00:40:57.404 And interestingly,  
NOTE Confidence: 0.858125870909091

00:40:57.404 --> 00:40:59.846 recognizing that there's a big overlap



NOTE Confidence: 0.858125870909091

00:40:59.846 --> 00:41:01.953 between these patients is decreased

NOTE Confidence: 0.858125870909091

00:41:01.953 --> 00:41:03.998 melatonin levels in these patients.

NOTE Confidence: 0.858125870909091

00:41:04.000 --> 00:41:06.136 There's been a couple of RCT's that

NOTE Confidence: 0.858125870909091

00:41:06.136 --> 00:41:09.097 have looked at treatment of IBS poor

NOTE Confidence: 0.858125870909091

00:41:09.097 --> 00:41:11.759 sleep in patients with melatonin,

NOTE Confidence: 0.858125870909091

00:41:11.760 --> 00:41:13.902 and it showed that patients that were

NOTE Confidence: 0.858125870909091

00:41:13.902 --> 00:41:16.153 given melatonin 3 melodramas there was

NOTE Confidence: 0.858125870909091

00:41:16.153 --> 00:41:18.273 improvement in their abdominal symptoms,

NOTE Confidence: 0.858125870909091

00:41:18.280 --> 00:41:19.618 but there was no difference in

NOTE Confidence: 0.858125870909091

00:41:19.618 --> 00:41:21.200 their PSG or Sleep Questionnaire,

NOTE Confidence: 0.858125870909091

00:41:21.200 --> 00:41:22.138 so it's not like they were like,

NOTE Confidence: 0.858125870909091

00:41:22.140 --> 00:41:23.660 oh, I got better sleep on my sleep.

NOTE Confidence: 0.858125870909091

00:41:23.660 --> 00:41:26.018 Efficiency improved based on the PSE,

NOTE Confidence: 0.858125870909091

00:41:26.020 --> 00:41:27.892 but they had less.

NOTE Confidence: 0.858125870909091

00:41:27.892 --> 00:41:28.828 Donald symptoms,

NOTE Confidence: 0.858125870909091

00:41:28.830 --> 00:41:31.255 treatment of RLS with ferritin  
NOTE Confidence: 0.858125870909091

00:41:31.255 --> 00:41:32.710 and dopamine agonist,  
NOTE Confidence: 0.858125870909091

00:41:32.710 --> 00:41:35.266 are the two main study medications  
NOTE Confidence: 0.858125870909091

00:41:35.266 --> 00:41:37.751 also improve sleep efficiency in these  
NOTE Confidence: 0.858125870909091

00:41:37.751 --> 00:41:40.236 these patients with IBS or small bowel,  
NOTE Confidence: 0.858125870909091

00:41:40.240 --> 00:41:40.914 intestinal overgrowth,  
NOTE Confidence: 0.858125870909091

00:41:40.914 --> 00:41:43.273 and so you can see there is  
NOTE Confidence: 0.858125870909091

00:41:43.273 --> 00:41:44.890 something unique treatment options  
NOTE Confidence: 0.858125870909091

00:41:44.890 --> 00:41:47.090 modalities in these patients that  
NOTE Confidence: 0.858125870909091

00:41:47.090 --> 00:41:49.379 have comorbid sleep and IBS that  
NOTE Confidence: 0.858125870909091

00:41:49.379 --> 00:41:51.836 we don't normally think of that we  
NOTE Confidence: 0.858125870909091

00:41:51.836 --> 00:41:54.674 very important for us to recognize.  
NOTE Confidence: 0.858125870909091

00:41:54.680 --> 00:41:56.710 Uh, we know pretty well shift work.  
NOTE Confidence: 0.858125870909091

00:41:56.710 --> 00:41:58.482 Sleep disorders associated with  
NOTE Confidence: 0.858125870909091

00:41:58.482 --> 00:42:01.140 increased risk of solid organ cancers,  
NOTE Confidence: 0.858125870909091

00:42:01.140 --> 00:42:02.850 but there's more and more evidence

NOTE Confidence: 0.858125870909091

00:42:02.850 --> 00:42:04.876 coming out that sleep duration actually

NOTE Confidence: 0.858125870909091

00:42:04.876 --> 00:42:06.540 changes your risk considerably,

NOTE Confidence: 0.858125870909091

00:42:06.540 --> 00:42:09.326 regardless of whether or not you have

NOTE Confidence: 0.858125870909091

00:42:09.326 --> 00:42:11.639 shift work disorder or sleep apnea.

NOTE Confidence: 0.858125870909091

00:42:11.640 --> 00:42:14.272 So in this study by Thompson and

NOTE Confidence: 0.858125870909091

00:42:14.272 --> 00:42:16.497 colleagues showed that there was a 50%

NOTE Confidence: 0.858125870909091

00:42:16.500 --> 00:42:18.816 increase in the risk of colorectal

NOTE Confidence: 0.858125870909091

00:42:18.816 --> 00:42:21.115 adenomas and patients who slept less

NOTE Confidence: 0.858125870909091

00:42:21.115 --> 00:42:23.516 than six hours on the other spectrum.

NOTE Confidence: 0.858125870909091

00:42:23.520 --> 00:42:25.130 Other side of that spectrum.

NOTE Confidence: 0.858125870909091

00:42:25.130 --> 00:42:26.685 Zang and colleagues showed that

NOTE Confidence: 0.858125870909091

00:42:26.685 --> 00:42:28.673 sleeping more than 9 hours was

NOTE Confidence: 0.858125870909091

00:42:28.673 --> 00:42:30.157 also associated with increased

NOTE Confidence: 0.858125870909091

00:42:30.157 --> 00:42:32.012 risk of colorectal cancer compared

NOTE Confidence: 0.858125870909091

00:42:32.066 --> 00:42:33.837 to those that only slept 7 hours.

NOTE Confidence: 0.858125870909091

00:42:33.840 --> 00:42:36.420 So you can see that.  
NOTE Confidence: 0.858125870909091

00:42:36.420 --> 00:42:38.202 Decrease sleep which can be centered  
NOTE Confidence: 0.858125870909091

00:42:38.202 --> 00:42:39.801 insomnia when these other cornbread  
NOTE Confidence: 0.858125870909091

00:42:39.801 --> 00:42:41.229 sleep conditions increases the  
NOTE Confidence: 0.858125870909091

00:42:41.229 --> 00:42:42.657 risk of colorectal cancer.  
NOTE Confidence: 0.858125870909091

00:42:42.660 --> 00:42:43.768 Conversely, sleeping a lot,  
NOTE Confidence: 0.858125870909091

00:42:43.768 --> 00:42:45.430 which might be seen in our  
NOTE Confidence: 0.801078520769231

00:42:45.486 --> 00:42:46.770 patient with hypersomnia,  
NOTE Confidence: 0.801078520769231

00:42:46.770 --> 00:42:49.375 also increases your risk of  
NOTE Confidence: 0.801078520769231

00:42:49.375 --> 00:42:50.723 colorectal cancer. Interestingly,  
NOTE Confidence: 0.801078520769231

00:42:50.723 --> 00:42:53.147 this risk was doubled if the patient was  
NOTE Confidence: 0.801078520769231

00:42:53.147 --> 00:42:55.120 also noted to be obese and or snored,  
NOTE Confidence: 0.801078520769231

00:42:55.120 --> 00:42:58.018 and this was a colorectal surgery paper,  
NOTE Confidence: 0.801078520769231

00:42:58.020 --> 00:42:59.844 and so they use snoring as  
NOTE Confidence: 0.801078520769231

00:42:59.844 --> 00:43:01.540 a marker for sleep apnea.  
NOTE Confidence: 0.801078520769231

00:43:01.540 --> 00:43:05.229 They weren't actually tested for sleep apnea.

NOTE Confidence: 0.801078520769231

00:43:05.230 --> 00:43:07.547 And why do we think this exists?

NOTE Confidence: 0.801078520769231

00:43:07.550 --> 00:43:10.287 We know that lack of sleep is

NOTE Confidence: 0.801078520769231

00:43:10.287 --> 00:43:12.989 pretty blown and pro inflammatory.

NOTE Confidence: 0.801078520769231

00:43:12.990 --> 00:43:14.550 A lot of people would sleep

NOTE Confidence: 0.801078520769231

00:43:14.550 --> 00:43:16.409 deprivation for after a couple of days.

NOTE Confidence: 0.801078520769231

00:43:16.410 --> 00:43:17.610 We'll end up with, you know,

NOTE Confidence: 0.801078520769231

00:43:17.610 --> 00:43:18.126 overwhelming sepsis.

NOTE Confidence: 0.801078520769231

00:43:18.126 --> 00:43:20.190 That kind of storm and so in these

NOTE Confidence: 0.801078520769231

00:43:20.238 --> 00:43:22.205 patients they actually looked at the ones

NOTE Confidence: 0.801078520769231

00:43:22.205 --> 00:43:24.037 that were sleeping less than six hours,

NOTE Confidence: 0.801078520769231

00:43:24.040 --> 00:43:26.252 and they were noted to have increased

NOTE Confidence: 0.801078520769231

00:43:26.252 --> 00:43:27.890 Interleukin 6 and CRP levels.

NOTE Confidence: 0.801078520769231

00:43:27.890 --> 00:43:30.004 There's also an increase in TNF levels

NOTE Confidence: 0.801078520769231

00:43:30.004 --> 00:43:32.506 for every hour under 7 1/2 hours of sleep,

NOTE Confidence: 0.801078520769231

00:43:32.510 --> 00:43:34.140 which promotes new tumor growth

NOTE Confidence: 0.801078520769231

00:43:34.140 --> 00:43:35.444 and then the instrument.

NOTE Confidence: 0.801078520769231

00:43:35.450 --> 00:43:37.616 Epoxy itself is considered to promote

NOTE Confidence: 0.801078520769231

00:43:37.616 --> 00:43:39.060 carcinogenesis in these patients,

NOTE Confidence: 0.801078520769231

00:43:39.060 --> 00:43:40.974 so you can see somebody who

NOTE Confidence: 0.801078520769231

00:43:40.974 --> 00:43:42.965 sleeps less than six hours and

NOTE Confidence: 0.801078520769231

00:43:42.965 --> 00:43:44.909 has come up with sleep apnea.

NOTE Confidence: 0.801078520769231

00:43:44.910 --> 00:43:45.806 Their risk for development

NOTE Confidence: 0.801078520769231

00:43:45.806 --> 00:43:46.926 of some type of cancer,

NOTE Confidence: 0.801078520769231

00:43:46.930 --> 00:43:48.313 particularly colorectal cancer,

NOTE Confidence: 0.801078520769231

00:43:48.313 --> 00:43:49.696 is significantly elevated.

NOTE Confidence: 0.833545281666667

00:43:52.040 --> 00:43:54.116 Lastly, just to round things out,

NOTE Confidence: 0.833545281666667

00:43:54.120 --> 00:43:55.795 liver disease has also been

NOTE Confidence: 0.833545281666667

00:43:55.795 --> 00:43:57.135 associated with sleep disorders,

NOTE Confidence: 0.833545281666667

00:43:57.140 --> 00:43:59.284 and so as an icy dock very commonly

NOTE Confidence: 0.833545281666667

00:43:59.284 --> 00:44:01.620 we'll see patients that have cirrhosis,

NOTE Confidence: 0.833545281666667

00:44:01.620 --> 00:44:05.134 end stage liver disease of any other

NOTE Confidence: 0.833545281666667

00:44:05.134 --> 00:44:07.220 ideology have very, very poor sleep.

NOTE Confidence: 0.833545281666667

00:44:07.220 --> 00:44:09.187 Now this has been chalked up to

NOTE Confidence: 0.833545281666667

00:44:09.190 --> 00:44:11.460 the poor clearance of ammonia,

NOTE Confidence: 0.833545281666667

00:44:11.460 --> 00:44:14.274 which can disrupt the sleep wake cycle,

NOTE Confidence: 0.833545281666667

00:44:14.280 --> 00:44:16.176 poor production of melatonin,

NOTE Confidence: 0.833545281666667

00:44:16.176 --> 00:44:19.020 and its subsequent consequences in

NOTE Confidence: 0.833545281666667

00:44:19.097 --> 00:44:21.607 maintaining a proper sleeping cycle.

NOTE Confidence: 0.833545281666667

00:44:21.610 --> 00:44:23.602 But sleep disorders has also been

NOTE Confidence: 0.833545281666667

00:44:23.602 --> 00:44:25.605 associated with liver disease and so

NOTE Confidence: 0.833545281666667

00:44:25.605 --> 00:44:27.150 non alcoholic fatty liver disease.

NOTE Confidence: 0.833545281666667

00:44:27.150 --> 00:44:29.928 NAFLD affects one in four people,

NOTE Confidence: 0.833545281666667

00:44:29.930 --> 00:44:32.042 has become a real epidemic ever

NOTE Confidence: 0.833545281666667

00:44:32.042 --> 00:44:33.770 since obesity has taken off,

NOTE Confidence: 0.833545281666667

00:44:33.770 --> 00:44:35.506 and so both obesity.

NOTE Confidence: 0.833545281666667

00:44:35.506 --> 00:44:38.642 Obesity itself has driven the navel and

NOTE Confidence: 0.833545281666667

00:44:38.642 --> 00:44:41.827 sleep apnea epidemic together hand in hand.

NOTE Confidence: 0.833545281666667

00:44:41.830 --> 00:44:43.100 Interestingly, however,

NOTE Confidence: 0.833545281666667

00:44:43.100 --> 00:44:46.275 NAFLD and OSE appeared to.

NOTE Confidence: 0.833545281666667

00:44:46.280 --> 00:44:48.542 Occur a lot more frequently than

NOTE Confidence: 0.833545281666667

00:44:48.542 --> 00:44:49.673 we previously thought.

NOTE Confidence: 0.833545281666667

00:44:49.680 --> 00:44:51.715 NAFLD itself is associated with

NOTE Confidence: 0.833545281666667

00:44:51.715 --> 00:44:52.936 increased cardiovascular risk.

NOTE Confidence: 0.833545281666667

00:44:52.940 --> 00:44:54.080 It can lead to cirrhosis,

NOTE Confidence: 0.833545281666667

00:44:54.080 --> 00:44:58.166 liver failure and battle cellular carcinoma.

NOTE Confidence: 0.833545281666667

00:44:58.170 --> 00:44:59.703 And so why do we think these

NOTE Confidence: 0.833545281666667

00:44:59.703 --> 00:45:01.009 tend to kind of coexist?

NOTE Confidence: 0.833545281666667

00:45:01.010 --> 00:45:03.450 Sleep apnea causes intermittent hypoxia,

NOTE Confidence: 0.833545281666667

00:45:03.450 --> 00:45:04.994 leads to oxidative stress,

NOTE Confidence: 0.833545281666667

00:45:04.994 --> 00:45:05.766 tissue inflammation,

NOTE Confidence: 0.833545281666667

00:45:05.770 --> 00:45:07.666 and overactivation of the

NOTE Confidence: 0.833545281666667

00:45:07.666 --> 00:45:09.088 sympathetic nervous system.



NOTE Confidence: 0.833545281666667  
00:45:09.090 --> 00:45:11.090 This has been shown to  
NOTE Confidence: 0.833545281666667  
00:45:11.090 --> 00:45:12.290 cause pancreatic apoptosis,  
NOTE Confidence: 0.833545281666667  
00:45:12.290 --> 00:45:13.628 which ultimately results  
NOTE Confidence: 0.833545281666667  
00:45:13.628 --> 00:45:14.966 in insulin dysregulation.  
NOTE Confidence: 0.833545281666667  
00:45:14.970 --> 00:45:18.786 And then we can't metabolize fat fatty acids,  
NOTE Confidence: 0.833545281666667  
00:45:18.790 --> 00:45:21.566 and we'll end up with fatty liver disease.  
NOTE Confidence: 0.833545281666667  
00:45:21.570 --> 00:45:23.250 Intermittent hypoxia also directly  
NOTE Confidence: 0.833545281666667  
00:45:23.250 --> 00:45:25.350 leads to hepatic steatosis and  
NOTE Confidence: 0.833545281666667  
00:45:25.350 --> 00:45:26.953 fibrosis due to mitochondrial  
NOTE Confidence: 0.833545281666667  
00:45:26.953 --> 00:45:28.445 injury directly from the.  
NOTE Confidence: 0.833545281666667  
00:45:28.450 --> 00:45:31.954 From anoxia or hypoxia and patients  
NOTE Confidence: 0.833545281666667  
00:45:31.954 --> 00:45:35.090 with non-alcoholic fatty liver disease,  
NOTE Confidence: 0.833545281666667  
00:45:35.090 --> 00:45:37.540 up to a third 3/4 of them,  
NOTE Confidence: 0.833545281666667  
00:45:37.540 --> 00:45:39.535 75% of them might have sleep apnea,  
NOTE Confidence: 0.833545281666667  
00:45:39.540 --> 00:45:41.934 so it's a huge proportion of  
NOTE Confidence: 0.833545281666667

00:45:41.934 --> 00:45:44.066 these patients that will have  
NOTE Confidence: 0.833545281666667

00:45:44.066 --> 00:45:46.326 comorbid NAFLD and sleep apnea.  
NOTE Confidence: 0.833545281666667

00:45:46.330 --> 00:45:49.418 The jury still out whether or not PAP  
NOTE Confidence: 0.833545281666667

00:45:49.418 --> 00:45:51.729 therapy appears to improve snaffled.  
NOTE Confidence: 0.833545281666667

00:45:51.730 --> 00:45:54.184 Once you have fatty liver disease  
NOTE Confidence: 0.833545281666667

00:45:54.184 --> 00:45:56.849 as diagnosed by biopsy on Histology.  
NOTE Confidence: 0.833545281666667

00:45:56.850 --> 00:45:58.490 If you have sleep apnea,  
NOTE Confidence: 0.833545281666667

00:45:58.490 --> 00:46:00.278 PAP therapy does not appear to  
NOTE Confidence: 0.833545281666667

00:46:00.278 --> 00:46:01.970 reverse the fatty liver disease.  
NOTE Confidence: 0.833545281666667

00:46:01.970 --> 00:46:02.925 They're still trying to figure  
NOTE Confidence: 0.833545281666667

00:46:02.925 --> 00:46:04.330 out whether or not it slows down.  
NOTE Confidence: 0.833545281666667

00:46:04.330 --> 00:46:07.250 The progression of this disease.  
NOTE Confidence: 0.833545281666667

00:46:07.250 --> 00:46:08.120 In this study,  
NOTE Confidence: 0.833545281666667

00:46:08.120 --> 00:46:09.860 there was also a patient that  
NOTE Confidence: 0.833545281666667

00:46:09.860 --> 00:46:11.690 randomized auto CPAP versus fixed CPAP,  
NOTE Confidence: 0.833545281666667

00:46:11.690 --> 00:46:12.968 and there was no difference in

NOTE Confidence: 0.833545281666667  
00:46:12.968 --> 00:46:14.250 their fiber or last physical,  
NOTE Confidence: 0.833545281666667  
00:46:14.250 --> 00:46:16.320 which is a score that measures  
NOTE Confidence: 0.833545281666667  
00:46:16.320 --> 00:46:18.629 their fibrosis of the liver itself.  
NOTE Confidence: 0.833545281666667  
00:46:18.630 --> 00:46:20.805 There's also screening for patients  
NOTE Confidence: 0.833545281666667  
00:46:20.805 --> 00:46:22.980 with fatty liver disease for  
NOTE Confidence: 0.833545281666667  
00:46:23.055 --> 00:46:25.320 sleep apnea that currently is  
NOTE Confidence: 0.833545281666667  
00:46:25.320 --> 00:46:27.132 recommended by the hepatology.  
NOTE Confidence: 0.833545281666667  
00:46:27.140 --> 00:46:30.542 Association I'm going to speak to him  
NOTE Confidence: 0.833545281666667  
00:46:30.542 --> 00:46:32.171 up a little bit so rheumatology is  
NOTE Confidence: 0.833545281666667  
00:46:32.171 --> 00:46:33.923 also been associated with sleep disorders.  
NOTE Confidence: 0.833545281666667  
00:46:33.930 --> 00:46:35.540 It's been associated with a  
NOTE Confidence: 0.833545281666667  
00:46:35.540 --> 00:46:36.828 bunch of these conditions.  
NOTE Confidence: 0.833545281666667  
00:46:36.830 --> 00:46:38.699 A lot of these patients will already  
NOTE Confidence: 0.833545281666667  
00:46:38.699 --> 00:46:40.308 have sleep disturbances related to sleep,  
NOTE Confidence: 0.833545281666667  
00:46:40.310 --> 00:46:40.918 fragmentation,  
NOTE Confidence: 0.833545281666667

00:46:40.918 --> 00:46:41.526 insomnia,  
NOTE Confidence: 0.833545281666667

00:46:41.526 --> 00:46:45.782 and so Ari appears to be the  
NOTE Confidence: 0.833545281666667

00:46:45.782 --> 00:46:47.593 biggest kind of association.  
NOTE Confidence: 0.833545281666667

00:46:47.593 --> 00:46:50.400 And so this was a huge study  
NOTE Confidence: 0.833545281666667

00:46:50.486 --> 00:46:52.130 of 105 patients from Taiwan,  
NOTE Confidence: 0.833545281666667

00:46:52.130 --> 00:46:54.230 and they looked at 423 patients  
NOTE Confidence: 0.833545281666667

00:46:54.230 --> 00:46:56.090 with sleep apnea and without sleep  
NOTE Confidence: 0.833545281666667

00:46:56.090 --> 00:46:58.285 apnea and the risk of development  
NOTE Confidence: 0.833545281666667

00:46:58.285 --> 00:46:59.425 of autoimmune conditions.  
NOTE Confidence: 0.833545281666667

00:46:59.430 --> 00:47:00.426 And this is what they saw.  
NOTE Confidence: 0.833545281666667

00:47:00.430 --> 00:47:02.295 Patients with sleep apnea had  
NOTE Confidence: 0.833545281666667

00:47:02.295 --> 00:47:04.160 a huge increase compared to  
NOTE Confidence: 0.890010636666667

00:47:04.227 --> 00:47:06.637 the overall control group of  
NOTE Confidence: 0.890010636666667

00:47:06.637 --> 00:47:08.083 developing autoimmune disease.  
NOTE Confidence: 0.890010636666667

00:47:08.090 --> 00:47:09.980 It was higher for rheumatoid arthritis.  
NOTE Confidence: 0.890010636666667

00:47:09.980 --> 00:47:13.108 It was increased risk for show grinds and

NOTE Confidence: 0.890010636666667

00:47:13.108 --> 00:47:15.568 increased risk for base shots as well.

NOTE Confidence: 0.890010636666667

00:47:15.570 --> 00:47:17.750 Umm? Going the other way,

NOTE Confidence: 0.890010636666667

00:47:17.750 --> 00:47:20.054 they looked at patients that had

NOTE Confidence: 0.890010636666667

00:47:20.054 --> 00:47:22.279 rheumatoid arthritis and then they were.

NOTE Confidence: 0.890010636666667

00:47:22.280 --> 00:47:24.030 They wanted to see how many of

NOTE Confidence: 0.890010636666667

00:47:24.030 --> 00:47:25.496 them ended up developing sleep

NOTE Confidence: 0.890010636666667

00:47:25.496 --> 00:47:27.458 apnea and so looking at this.

NOTE Confidence: 0.890010636666667

00:47:27.460 --> 00:47:29.200 Conversely, these are all patients

NOTE Confidence: 0.890010636666667

00:47:29.200 --> 00:47:30.940 with rheumatoid arthritis and you

NOTE Confidence: 0.890010636666667

00:47:30.994 --> 00:47:32.680 can see their risk of developing

NOTE Confidence: 0.890010636666667

00:47:32.680 --> 00:47:34.341 sleep apnea appears to be much

NOTE Confidence: 0.890010636666667

00:47:34.341 --> 00:47:36.062 higher at the 12 year mark compared

NOTE Confidence: 0.890010636666667

00:47:36.062 --> 00:47:38.009 to people that did not have sleep

NOTE Confidence: 0.890010636666667

00:47:38.009 --> 00:47:39.519 rooted arthritis to begin with,

NOTE Confidence: 0.890010636666667

00:47:39.520 --> 00:47:41.464 so it appears to be a two way

NOTE Confidence: 0.890010636666667

00:47:41.464 --> 00:47:42.969 connection between these two diseases.

NOTE Confidence: 0.890010636666667

00:47:42.970 --> 00:47:46.080 Autoimmune conditions quickly

NOTE Confidence: 0.890010636666667

00:47:46.080 --> 00:47:47.700 going through this.

NOTE Confidence: 0.890010636666667

00:47:47.700 --> 00:47:49.140 Rheumatoid conditions arthritis

NOTE Confidence: 0.890010636666667

00:47:49.140 --> 00:47:51.300 itself predisposes us to sleep apnea

NOTE Confidence: 0.890010636666667

00:47:51.300 --> 00:47:53.293 because if many people pathology

NOTE Confidence: 0.890010636666667

00:47:53.293 --> 00:47:54.989 cervical spine instability or

NOTE Confidence: 0.890010636666667

00:47:54.989 --> 00:47:57.100 through destruction of the TMJ's,

NOTE Confidence: 0.890010636666667

00:47:57.100 --> 00:47:58.695 there's also interleukins that appear

NOTE Confidence: 0.890010636666667

00:47:58.695 --> 00:48:01.447 to play a huge role in this that

NOTE Confidence: 0.890010636666667

00:48:01.447 --> 00:48:02.915 lead to ultimately fragmentation.

NOTE Confidence: 0.890010636666667

00:48:02.920 --> 00:48:04.702 Further inflammation promoting

NOTE Confidence: 0.890010636666667

00:48:04.702 --> 00:48:07.078 both sleep dysregulation and

NOTE Confidence: 0.890010636666667

00:48:07.080 --> 00:48:10.599 precipitating autoimmune flares.

NOTE Confidence: 0.890010636666667

00:48:10.600 --> 00:48:12.357 One thing I wanted to talk about

NOTE Confidence: 0.890010636666667

00:48:12.357 --> 00:48:14.443 is anti TNF medications that have

NOTE Confidence: 0.890010636666667  
00:48:14.443 --> 00:48:16.558 been used to treat rheumatologic  
NOTE Confidence: 0.890010636666667  
00:48:16.558 --> 00:48:17.865 conditions actually improve  
NOTE Confidence: 0.890010636666667  
00:48:17.865 --> 00:48:19.865 sleep latency and increase sleep  
NOTE Confidence: 0.890010636666667  
00:48:19.865 --> 00:48:21.754 efficiency while decreasing a child,  
NOTE Confidence: 0.890010636666667  
00:48:21.754 --> 00:48:22.890 which is very interesting.  
NOTE Confidence: 0.890010636666667  
00:48:22.890 --> 00:48:25.146 So something we used to treat  
NOTE Confidence: 0.890010636666667  
00:48:25.146 --> 00:48:26.650 rheumatologic conditions can actually  
NOTE Confidence: 0.890010636666667  
00:48:26.707 --> 00:48:28.758 overall improve our sleep sleep study,  
NOTE Confidence: 0.890010636666667  
00:48:28.758 --> 00:48:29.730 scores of sleep,  
NOTE Confidence: 0.890010636666667  
00:48:29.730 --> 00:48:31.902 latency and HIV and then treatment  
NOTE Confidence: 0.890010636666667  
00:48:31.902 --> 00:48:33.883 with path therapy for people  
NOTE Confidence: 0.890010636666667  
00:48:33.883 --> 00:48:36.673 with common with sleep apnea also  
NOTE Confidence: 0.890010636666667  
00:48:36.673 --> 00:48:38.068 reproduces inflammatory markers  
NOTE Confidence: 0.890010636666667  
00:48:38.142 --> 00:48:40.262 and has been associated with  
NOTE Confidence: 0.890010636666667  
00:48:40.262 --> 00:48:41.958 decrease in rheumatoid flares.  
NOTE Confidence: 0.890010636666667

00:48:41.960 --> 00:48:42.932 Hematologic manifestations we  
NOTE Confidence: 0.890010636666667

00:48:42.932 --> 00:48:45.200 can kind of quickly just go over,  
NOTE Confidence: 0.890010636666667

00:48:45.200 --> 00:48:46.579 so we know that Paul's have theme  
NOTE Confidence: 0.890010636666667

00:48:46.579 --> 00:48:47.800 is pretty common in sleep apnea.  
NOTE Confidence: 0.890010636666667

00:48:47.800 --> 00:48:49.860 Severe sleep apnea patients but  
NOTE Confidence: 0.890010636666667

00:48:49.860 --> 00:48:52.500 increased RDW and as well as MPV,  
NOTE Confidence: 0.890010636666667

00:48:52.500 --> 00:48:54.740 which are markers of increased  
NOTE Confidence: 0.890010636666667

00:48:54.740 --> 00:48:56.532 platelet aggregation and activity,  
NOTE Confidence: 0.890010636666667

00:48:56.540 --> 00:48:58.230 has also been associated with  
NOTE Confidence: 0.890010636666667

00:48:58.230 --> 00:48:59.582 people with severe feedback.  
NOTE Confidence: 0.890010636666667

00:48:59.590 --> 00:48:59.807 Yeah,  
NOTE Confidence: 0.890010636666667

00:48:59.807 --> 00:49:01.543 so it's one of those things that we  
NOTE Confidence: 0.890010636666667

00:49:01.543 --> 00:49:03.310 can look for in patients that severe  
NOTE Confidence: 0.890010636666667

00:49:03.310 --> 00:49:05.013 sleep apnea and and recommend PAP  
NOTE Confidence: 0.890010636666667

00:49:05.013 --> 00:49:06.628 therapy more aggressively or treatment  
NOTE Confidence: 0.890010636666667

00:49:06.628 --> 00:49:08.554 of their sleep apnea more aggressively.



NOTE Confidence: 0.890010636666667  
00:49:08.554 --> 00:49:10.780 If we see one of these indices.  
NOTE Confidence: 0.890010636666667  
00:49:10.780 --> 00:49:14.480 Elevated? You have some other organ  
NOTE Confidence: 0.890010636666667  
00:49:14.480 --> 00:49:15.670 systems linked to sleep disorders.  
NOTE Confidence: 0.890010636666667  
00:49:15.670 --> 00:49:16.912 We know pulmonary.  
NOTE Confidence: 0.890010636666667  
00:49:16.912 --> 00:49:19.396 This increases flags as asthma exacerbation,  
NOTE Confidence: 0.890010636666667  
00:49:19.400 --> 00:49:20.684 and vice versa.  
NOTE Confidence: 0.890010636666667  
00:49:20.684 --> 00:49:23.178 In the OB, we know sleep patterns  
NOTE Confidence: 0.890010636666667  
00:49:23.178 --> 00:49:24.084 associated with preeclampsia,  
NOTE Confidence: 0.890010636666667  
00:49:24.090 --> 00:49:25.202 gestational diabetes,  
NOTE Confidence: 0.890010636666667  
00:49:25.202 --> 00:49:26.870 low birth weight,  
NOTE Confidence: 0.890010636666667  
00:49:26.870 --> 00:49:28.808 neurologic 20 to 80% of patients.  
NOTE Confidence: 0.890010636666667  
00:49:28.810 --> 00:49:30.868 Upsy will have sleep disorder breathing  
NOTE Confidence: 0.890010636666667  
00:49:30.868 --> 00:49:32.931 and actually treating the sleep apnea  
NOTE Confidence: 0.890010636666667  
00:49:32.931 --> 00:49:35.150 with pathway reduces the risk of seizures,  
NOTE Confidence: 0.890010636666667  
00:49:35.150 --> 00:49:36.842 and we know patients with expense  
NOTE Confidence: 0.890010636666667

00:49:36.842 --> 00:49:38.340 rises will have poor sleep.  
NOTE Confidence: 0.890010636666667

00:49:38.340 --> 00:49:40.686 But treating their psoriasis and eczema  
NOTE Confidence: 0.890010636666667

00:49:40.686 --> 00:49:42.980 will actually improve the underlying.  
NOTE Confidence: 0.890010636666667

00:49:42.980 --> 00:49:46.040 Sleep quality and so this is just a quick  
NOTE Confidence: 0.890010636666667

00:49:46.040 --> 00:49:47.526 summary because I'm running out of time,  
NOTE Confidence: 0.890010636666667

00:49:47.530 --> 00:49:48.964 but I want people to ask  
NOTE Confidence: 0.890010636666667

00:49:48.964 --> 00:49:49.920 questions that they have,  
NOTE Confidence: 0.890010636666667

00:49:49.920 --> 00:49:51.656 but a lot of these conditions appear  
NOTE Confidence: 0.890010636666667

00:49:51.656 --> 00:49:53.639 to have a two way communication,  
NOTE Confidence: 0.890010636666667

00:49:53.640 --> 00:49:53.882 right?  
NOTE Confidence: 0.890010636666667

00:49:53.882 --> 00:49:55.334 So sleep apnea has been associated  
NOTE Confidence: 0.890010636666667

00:49:55.334 --> 00:49:57.292 with a lot of these conditions that we  
NOTE Confidence: 0.890010636666667

00:49:57.292 --> 00:49:59.040 talked about and so our job really.  
NOTE Confidence: 0.890010636666667

00:49:59.040 --> 00:50:00.426 And the whole point of this  
NOTE Confidence: 0.890010636666667

00:50:00.426 --> 00:50:01.350 talk is for us  
NOTE Confidence: 0.915447319285714

00:50:01.412 --> 00:50:03.036 to recognize that these associations

NOTE Confidence: 0.915447319285714

00:50:03.036 --> 00:50:05.884 exist and that we should not only be

NOTE Confidence: 0.915447319285714

00:50:05.884 --> 00:50:07.665 evaluating patients that have been

NOTE Confidence: 0.915447319285714

00:50:07.665 --> 00:50:09.699 referred to us for sleep studies,

NOTE Confidence: 0.915447319285714

00:50:09.700 --> 00:50:11.195 but also recommend on the

NOTE Confidence: 0.915447319285714

00:50:11.195 --> 00:50:12.930 other side sending them to GI,

NOTE Confidence: 0.915447319285714

00:50:12.930 --> 00:50:15.058 sending them to ophthalmology.

NOTE Confidence: 0.915447319285714

00:50:15.058 --> 00:50:16.600 Rheumatology, if we see that there

NOTE Confidence: 0.915447319285714

00:50:16.600 --> 00:50:18.028 are risk for these common reconditions

NOTE Confidence: 0.915447319285714

00:50:18.028 --> 00:50:19.883 or have presenting symptoms for

NOTE Confidence: 0.915447319285714

00:50:19.883 --> 00:50:20.996 these commemorative conditions.

NOTE Confidence: 0.889077999166667

00:50:23.020 --> 00:50:24.928 Also, recognize that some of these

NOTE Confidence: 0.889077999166667

00:50:24.928 --> 00:50:26.999 conditions can be treated very uniquely.

NOTE Confidence: 0.889077999166667

00:50:27.000 --> 00:50:29.196 Melatonin IVIG TNF inhibitors can help

NOTE Confidence: 0.889077999166667

00:50:29.196 --> 00:50:31.901 you improve the sleep condition as well

NOTE Confidence: 0.889077999166667

00:50:31.901 --> 00:50:34.259 as the underlying Coleman mid condition,

NOTE Confidence: 0.889077999166667

00:50:34.260 --> 00:50:35.890 and so it's important for  
NOTE Confidence: 0.889077999166667

00:50:35.890 --> 00:50:37.194 us to recognize that.  
NOTE Confidence: 0.889077999166667

00:50:37.200 --> 00:50:39.140 Besides, PAP and oral appliances,  
NOTE Confidence: 0.889077999166667

00:50:39.140 --> 00:50:40.390 there's other things out there  
NOTE Confidence: 0.889077999166667

00:50:40.390 --> 00:50:42.564 that can be used to treat these  
NOTE Confidence: 0.889077999166667

00:50:42.564 --> 00:50:43.438 overlapping conditions,  
NOTE Confidence: 0.889077999166667

00:50:43.440 --> 00:50:45.880 and that's all I got.  
NOTE Confidence: 0.889077999166667

00:50:45.880 --> 00:50:46.920 Happy to take questions.  
NOTE Confidence: 0.899690686

00:50:52.550 --> 00:50:54.810 So thank you very much.  
NOTE Confidence: 0.899690686

00:50:54.810 --> 00:50:58.554 Doctor Bam for that whirlwind tour  
NOTE Confidence: 0.899690686

00:50:58.554 --> 00:51:01.050 of associated sleep disorders,  
NOTE Confidence: 0.899690686

00:51:01.050 --> 00:51:03.150 but I do think it's really important.  
NOTE Confidence: 0.899690686

00:51:03.150 --> 00:51:04.422 I think you've highlighted,  
NOTE Confidence: 0.899690686

00:51:04.422 --> 00:51:06.012 you know the effects of  
NOTE Confidence: 0.899690686

00:51:06.012 --> 00:51:07.250 association versus causation.  
NOTE Confidence: 0.899690686

00:51:07.250 --> 00:51:08.444 That's really helpful.

NOTE Confidence: 0.899690686  
00:51:08.444 --> 00:51:09.832 And also, you know,  
NOTE Confidence: 0.899690686  
00:51:09.832 --> 00:51:11.608 in the world of Sleep Medicine,  
NOTE Confidence: 0.899690686  
00:51:11.610 --> 00:51:13.770 we're trying to be more.  
NOTE Confidence: 0.899690686  
00:51:13.770 --> 00:51:15.443 Sort of, you know, rather than just  
NOTE Confidence: 0.899690686  
00:51:15.443 --> 00:51:16.909 focusing on the sleep disorder.  
NOTE Confidence: 0.899690686  
00:51:16.910 --> 00:51:18.698 And that's it. Really.  
NOTE Confidence: 0.899690686  
00:51:18.698 --> 00:51:20.486 Looking at multi dimensional  
NOTE Confidence: 0.899690686  
00:51:20.486 --> 00:51:21.380 multi interdisciplinary.  
NOTE Confidence: 0.899690686  
00:51:21.380 --> 00:51:21.944 And, uh,  
NOTE Confidence: 0.899690686  
00:51:21.944 --> 00:51:23.636 how how the sleep disorder may  
NOTE Confidence: 0.899690686  
00:51:23.636 --> 00:51:24.969 impact other disease systems  
NOTE Confidence: 0.899690686  
00:51:24.969 --> 00:51:26.734 and other disease systems may  
NOTE Confidence: 0.899690686  
00:51:26.734 --> 00:51:28.180 affect the person's sleep.  
NOTE Confidence: 0.899690686  
00:51:28.180 --> 00:51:30.371 So I think it's really helpful to  
NOTE Confidence: 0.899690686  
00:51:30.371 --> 00:51:33.400 think to think broadly so we can  
NOTE Confidence: 0.899690686

00:51:33.400 --> 00:51:36.520 open it up for comments questions.  
NOTE Confidence: 0.899690686

00:51:36.520 --> 00:51:40.400 I will look at the oh the the chat,  
NOTE Confidence: 0.899690686

00:51:40.400 --> 00:51:42.350 but also feel free to unmute  
NOTE Confidence: 0.899690686

00:51:42.426 --> 00:51:44.682 yourself and ask a question so  
NOTE Confidence: 0.899690686

00:51:44.682 --> 00:51:46.909 I have something from the chat.  
NOTE Confidence: 0.899690686

00:51:46.910 --> 00:51:48.334 Awesome jobs you've been.  
NOTE Confidence: 0.899690686

00:51:48.334 --> 00:51:51.739 Can you go over how to identify floppy?  
NOTE Confidence: 0.899690686

00:51:51.740 --> 00:51:52.566 Eye again,  
NOTE Confidence: 0.899690686

00:51:52.566 --> 00:51:54.218 since it's so common  
NOTE Confidence: 0.755243664

00:51:54.950 --> 00:51:57.000 four, I can't say personally  
NOTE Confidence: 0.755243664

00:51:57.000 --> 00:51:59.050 I've ever picked this up,  
NOTE Confidence: 0.755243664

00:51:59.050 --> 00:52:01.507 but maybe it's I've already come across  
NOTE Confidence: 0.755243664

00:52:01.507 --> 00:52:04.047 it and never really looked for it,  
NOTE Confidence: 0.755243664

00:52:04.050 --> 00:52:05.826 and so really it's an ever to floppy,  
NOTE Confidence: 0.755243664

00:52:05.830 --> 00:52:07.406 eyelid and paper conjunctivitis.  
NOTE Confidence: 0.755243664

00:52:07.406 --> 00:52:10.848 So if I go back to this image So

NOTE Confidence: 0.755243664  
00:52:10.848 --> 00:52:12.216 what are you really looking for?  
NOTE Confidence: 0.755243664  
00:52:12.220 --> 00:52:12.955 Is a patient.  
NOTE Confidence: 0.755243664  
00:52:12.955 --> 00:52:14.670 Look down and then use their eyelid  
NOTE Confidence: 0.755243664  
00:52:14.724 --> 00:52:16.659 and look up so it's one of those things  
NOTE Confidence: 0.755243664  
00:52:16.659 --> 00:52:18.502 you should do as a kid where you  
NOTE Confidence: 0.755243664  
00:52:18.502 --> 00:52:20.353 should flip your eyelid inside out.  
NOTE Confidence: 0.755243664  
00:52:20.353 --> 00:52:23.607 If that happens very easily and they have  
NOTE Confidence: 0.755243664  
00:52:23.607 --> 00:52:26.715 an associated with the redness underneath it,  
NOTE Confidence: 0.755243664  
00:52:26.720 --> 00:52:29.800 it might suggest floppy eyelids.  
NOTE Confidence: 0.755243664  
00:52:29.800 --> 00:52:31.198 So essentially you're looking for something  
NOTE Confidence: 0.755243664  
00:52:31.198 --> 00:52:32.719 that says that comes in complaining,  
NOTE Confidence: 0.755243664  
00:52:32.720 --> 00:52:33.628 saying my, you know,  
NOTE Confidence: 0.755243664  
00:52:33.628 --> 00:52:35.460 my outlet seems a little bit more LAX,  
NOTE Confidence: 0.755243664  
00:52:35.460 --> 00:52:37.943 a little bit more floppy, so to speak.  
NOTE Confidence: 0.755243664  
00:52:37.943 --> 00:52:39.748 You can do this quick.  
NOTE Confidence: 0.755243664

00:52:39.750 --> 00:52:41.070 Evaluation for EVERSION,  
NOTE Confidence: 0.755243664

00:52:41.070 --> 00:52:43.354 but again, not an ophthalmologist.  
NOTE Confidence: 0.755243664

00:52:43.354 --> 00:52:46.058 It is a sleep condition and  
NOTE Confidence: 0.755243664

00:52:46.058 --> 00:52:47.490 an associated eye condition.  
NOTE Confidence: 0.755243664

00:52:47.490 --> 00:52:50.416 I would send them to the appropriate.  
NOTE Confidence: 0.755243664

00:52:50.420 --> 00:52:51.900 Specialty specialist,  
NOTE Confidence: 0.755243664

00:52:52.120 --> 00:52:53.270 yeah, can  
NOTE Confidence: 0.880942164285714

00:52:53.280 --> 00:52:54.974 I just say a word about that?  
NOTE Confidence: 0.880942164285714

00:52:54.980 --> 00:52:56.330 So one of the ways you can get  
NOTE Confidence: 0.880942164285714

00:52:56.330 --> 00:52:58.642 a hint is that when the patient  
NOTE Confidence: 0.880942164285714

00:52:58.642 --> 00:53:00.998 comes in that the eyelids are  
NOTE Confidence: 0.880942164285714

00:53:00.998 --> 00:53:03.952 practically at the level of the pupil,  
NOTE Confidence: 0.880942164285714

00:53:03.960 --> 00:53:05.676 like when they're looking at you.  
NOTE Confidence: 0.880942164285714

00:53:05.680 --> 00:53:07.556 It's like you start to wonder how  
NOTE Confidence: 0.880942164285714

00:53:07.556 --> 00:53:09.684 can this person see because the  
NOTE Confidence: 0.880942164285714

00:53:09.684 --> 00:53:12.168 islands are like really low and and



NOTE Confidence: 0.880942164285714

00:53:12.168 --> 00:53:13.752 that's that's a clue that they're

NOTE Confidence: 0.880942164285714

00:53:13.752 --> 00:53:15.390 going to have floppy eyelids.

NOTE Confidence: 0.863339616

00:53:16.100 --> 00:53:17.544 So if you see here, I think what doctor

NOTE Confidence: 0.863339616

00:53:17.544 --> 00:53:18.680 Cruz mentioned is like you can see,

NOTE Confidence: 0.863339616

00:53:18.680 --> 00:53:20.070 this looks like almost like.

NOTE Confidence: 0.863339616

00:53:20.070 --> 00:53:22.800 Closest where the island is have.

NOTE Confidence: 0.863339616

00:53:22.800 --> 00:53:25.929 Shielding some of some of the actual.

NOTE Confidence: 0.863339616

00:53:25.930 --> 00:53:27.897 Pupil iris and so yeah that would

NOTE Confidence: 0.863339616

00:53:27.897 --> 00:53:29.698 that would be a clue as well.

NOTE Confidence: 0.775409942857143

00:53:32.110 --> 00:53:34.000 Yeah, the the interesting with the getting

NOTE Confidence: 0.775409942857143

00:53:34.000 --> 00:53:36.188 on the eye thing that would glaucoma.

NOTE Confidence: 0.775409942857143

00:53:36.190 --> 00:53:39.310 This glaucoma is such a common,

NOTE Confidence: 0.775409942857143

00:53:39.310 --> 00:53:41.711 you know sleep disorder and I disorder

NOTE Confidence: 0.775409942857143

00:53:41.711 --> 00:53:44.041 like you mentioned and it can lead to

NOTE Confidence: 0.775409942857143

00:53:44.041 --> 00:53:46.168 blindness and and so I guess you know

NOTE Confidence: 0.775409942857143

00:53:46.168 --> 00:53:48.516 when you have a patient who you diagnosed  
NOTE Confidence: 0.775409942857143

00:53:48.516 --> 00:53:50.546 with severe obstructive sleep apnea.  
NOTE Confidence: 0.775409942857143

00:53:50.550 --> 00:53:51.810 We spend a lot of time,  
NOTE Confidence: 0.775409942857143

00:53:51.810 --> 00:53:56.108 you know talking about CPAP and treatment.  
NOTE Confidence: 0.775409942857143

00:53:56.110 --> 00:53:58.310 I wonder if there is some role to say hey,  
NOTE Confidence: 0.775409942857143

00:53:58.310 --> 00:53:59.804 these are the conditions that have  
NOTE Confidence: 0.775409942857143

00:53:59.804 --> 00:54:01.010 been associated with this and.  
NOTE Confidence: 0.775409942857143

00:54:01.010 --> 00:54:03.494 Maybe you know, did you have your eye exam?  
NOTE Confidence: 0.775409942857143

00:54:03.500 --> 00:54:05.108 How is your thyroid?  
NOTE Confidence: 0.775409942857143

00:54:05.108 --> 00:54:07.118 Have you been screened for  
NOTE Confidence: 0.775409942857143

00:54:07.118 --> 00:54:08.885 hypothyroidism and some other other  
NOTE Confidence: 0.775409942857143

00:54:08.885 --> 00:54:11.299 things we didn't touch on the the  
NOTE Confidence: 0.775409942857143

00:54:11.299 --> 00:54:13.299 metabolic effects of for thyroid.  
NOTE Confidence: 0.775409942857143

00:54:13.300 --> 00:54:15.596 That's a whole separate talk on itself,  
NOTE Confidence: 0.775409942857143

00:54:15.600 --> 00:54:17.518 but I think it does offer an  
NOTE Confidence: 0.775409942857143

00:54:17.518 --> 00:54:19.226 opportunity to just make sure that

NOTE Confidence: 0.775409942857143  
00:54:19.226 --> 00:54:21.580 they're up to date with all their age  
NOTE Confidence: 0.775409942857143  
00:54:21.580 --> 00:54:23.440 appropriate screening and so forth.  
NOTE Confidence: 0.684136142727273  
00:54:24.380 --> 00:54:25.700 Yeah, I. I definitely think  
NOTE Confidence: 0.684136142727273  
00:54:25.700 --> 00:54:27.340 there's a role for for that.  
NOTE Confidence: 0.684136142727273  
00:54:27.340 --> 00:54:29.004 You know, I think, as we found out,  
NOTE Confidence: 0.684136142727273  
00:54:29.010 --> 00:54:31.100 you're supposed to have two.  
NOTE Confidence: 0.684136142727273  
00:54:31.100 --> 00:54:32.250 By exams in your 20s,  
NOTE Confidence: 0.684136142727273  
00:54:32.250 --> 00:54:34.482 one in your 30s and then one typically  
NOTE Confidence: 0.684136142727273  
00:54:34.482 --> 00:54:36.890 at least one ophthalmologic evaluation.  
NOTE Confidence: 0.684136142727273  
00:54:36.890 --> 00:54:38.080 By the time you're 40 and so  
NOTE Confidence: 0.684136142727273  
00:54:38.080 --> 00:54:39.190 you can just be like, hey,  
NOTE Confidence: 0.684136142727273  
00:54:39.190 --> 00:54:40.510 have you ever seen enough theologist?  
NOTE Confidence: 0.684136142727273  
00:54:40.510 --> 00:54:43.342 Have you ever had an eye exam and keeping  
NOTE Confidence: 0.684136142727273  
00:54:43.342 --> 00:54:45.919 up with that certainly makes sense.  
NOTE Confidence: 0.760372418  
00:54:47.360 --> 00:54:48.320 So have a nice comment,  
NOTE Confidence: 0.760372418

00:54:48.320 --> 00:54:50.700 terrific talk and I'm going to be  
NOTE Confidence: 0.760372418

00:54:50.700 --> 00:54:53.320 a couple of the other questions.  
NOTE Confidence: 0.760372418

00:54:53.320 --> 00:54:56.535 So can pulmonary disease or  
NOTE Confidence: 0.760372418

00:54:56.535 --> 00:54:59.750 extra pulmonary results to OSA.  
NOTE Confidence: 0.760372418

00:54:59.750 --> 00:55:01.022 I was trying to read it to make  
NOTE Confidence: 0.760372418

00:55:01.022 --> 00:55:02.181 sure I understand the person  
NOTE Confidence: 0.760372418

00:55:02.181 --> 00:55:03.501 could unmute themselves that they  
NOTE Confidence: 0.760372418

00:55:03.501 --> 00:55:04.960 want to clarify the question.  
NOTE Confidence: 0.760372418

00:55:04.960 --> 00:55:07.800 Sorry, extra pulmonary disease.  
NOTE Confidence: 0.7753136297

00:55:09.890 --> 00:55:11.546 Sorry, I'm I'm not understanding  
NOTE Confidence: 0.7753136297

00:55:11.546 --> 00:55:12.650 the question is this.  
NOTE Confidence: 0.641903021111111

00:55:12.660 --> 00:55:15.085 Yeah, I'm sorry there's a  
NOTE Confidence: 0.641903021111111

00:55:15.085 --> 00:55:17.190 question by Ying Cat CAII.  
NOTE Confidence: 0.641903021111111

00:55:17.190 --> 00:55:17.990 Just I'm sorry I don't.  
NOTE Confidence: 0.641903021111111

00:55:17.990 --> 00:55:19.195 I don't understand the exact  
NOTE Confidence: 0.641903021111111

00:55:19.195 --> 00:55:20.620 question if they wanna ask him,

NOTE Confidence: 0.6419030211111111  
00:55:20.620 --> 00:55:22.400 maybe they could unmute themselves.  
NOTE Confidence: 0.06669521  
00:55:24.790 --> 00:55:26.735 And one other question,  
NOTE Confidence: 0.06669521  
00:55:26.735 --> 00:55:29.080 while we're waiting for that is for  
NOTE Confidence: 0.06669521  
00:55:29.142 --> 00:55:31.642 patients with narcolepsy or idiopathic  
NOTE Confidence: 0.06669521  
00:55:31.642 --> 00:55:33.642 hypersomnia and autonomic symptoms,  
NOTE Confidence: 0.06669521  
00:55:33.650 --> 00:55:36.646 would you treat yourself or do you  
NOTE Confidence: 0.06669521  
00:55:36.646 --> 00:55:39.680 inform the PCP of what's going on?  
NOTE Confidence: 0.735755831666667  
00:55:40.790 --> 00:55:42.708 So typically if I do have a  
NOTE Confidence: 0.735755831666667  
00:55:42.708 --> 00:55:43.969 patient with narcolepsy and IH,  
NOTE Confidence: 0.735755831666667  
00:55:43.970 --> 00:55:46.424 we actually have one with formally  
NOTE Confidence: 0.735755831666667  
00:55:46.424 --> 00:55:48.678 diagnosed pots so pots is  
NOTE Confidence: 0.735755831666667  
00:55:48.678 --> 00:55:50.858 typically diagnosed with biologist,  
NOTE Confidence: 0.735755831666667  
00:55:50.860 --> 00:55:54.076 tilttable testing, Valsalva yada, yada yada.  
NOTE Confidence: 0.735755831666667  
00:55:54.080 --> 00:55:55.690 And so if we're trying to treat  
NOTE Confidence: 0.735755831666667  
00:55:55.690 --> 00:55:56.774 the this autonomia depending  
NOTE Confidence: 0.735755831666667

00:55:56.774 --> 00:55:58.138 on what they're presenting,  
NOTE Confidence: 0.735755831666667

00:55:58.140 --> 00:56:00.926 symptom is I might refer them back  
NOTE Confidence: 0.735755831666667

00:56:00.926 --> 00:56:03.658 to cardiology who made the diagnosis.  
NOTE Confidence: 0.735755831666667

00:56:03.660 --> 00:56:06.558 If it's disappointed to kind of.  
NOTE Confidence: 0.735755831666667

00:56:06.560 --> 00:56:07.432 Presenting otherwise,  
NOTE Confidence: 0.735755831666667

00:56:07.432 --> 00:56:09.612 let me feel comfortable just  
NOTE Confidence: 0.735755831666667

00:56:09.612 --> 00:56:11.770 giving them the salt, water,  
NOTE Confidence: 0.735755831666667

00:56:11.770 --> 00:56:14.020 increased salt and water intake.  
NOTE Confidence: 0.735755831666667

00:56:14.020 --> 00:56:16.384 Now if we're talking about something  
NOTE Confidence: 0.735755831666667

00:56:16.384 --> 00:56:18.837 like IVIG for somebody with idiopathic  
NOTE Confidence: 0.735755831666667

00:56:18.837 --> 00:56:21.243 hypersomnia and they do have this  
NOTE Confidence: 0.735755831666667

00:56:21.243 --> 00:56:23.872 whole host of immune presentation would  
NOTE Confidence: 0.735755831666667

00:56:23.872 --> 00:56:26.176 have idiopathic gastroparesis pots.  
NOTE Confidence: 0.735755831666667

00:56:26.180 --> 00:56:28.904 I would probably send them to immunology.  
NOTE Confidence: 0.735755831666667

00:56:28.904 --> 00:56:31.676 Who who might do further recommendations?  
NOTE Confidence: 0.735755831666667

00:56:31.680 --> 00:56:34.290 Do IG subclass testing and then

NOTE Confidence: 0.735755831666667  
00:56:34.290 --> 00:56:36.410 actually recommend IVIG or not.  
NOTE Confidence: 0.735755831666667  
00:56:36.410 --> 00:56:39.549 So that was just a 1 \* 1 case series  
NOTE Confidence: 0.735755831666667  
00:56:39.549 --> 00:56:41.914 that showed improvement in sleep  
NOTE Confidence: 0.735755831666667  
00:56:41.914 --> 00:56:44.070 parameters after IVIG infusions.  
NOTE Confidence: 0.735755831666667  
00:56:44.070 --> 00:56:45.441 For this autonomia,  
NOTE Confidence: 0.735755831666667  
00:56:45.441 --> 00:56:48.183 I don't know if it's proven.  
NOTE Confidence: 0.735755831666667  
00:56:48.190 --> 00:56:49.770 Therapy with a track record.  
NOTE Confidence: 0.735755831666667  
00:56:49.770 --> 00:56:52.930 But if it's simple enough,  
NOTE Confidence: 0.735755831666667  
00:56:52.930 --> 00:56:54.355 I feel comfortable dealing with  
NOTE Confidence: 0.735755831666667  
00:56:54.355 --> 00:56:55.949 it in terms of dysautonomia,  
NOTE Confidence: 0.735755831666667  
00:56:55.950 --> 00:56:57.936 but when you're getting into other  
NOTE Confidence: 0.735755831666667  
00:56:57.936 --> 00:56:59.260 manifestations of disease at  
NOTE Confidence: 0.735755831666667  
00:56:59.314 --> 00:57:01.300 probably leave it to the specialist  
NOTE Confidence: 0.735755831666667  
00:57:01.300 --> 00:57:03.030 so cardiologists are pretty good  
NOTE Confidence: 0.735755831666667  
00:57:03.030 --> 00:57:05.142 resource neurologist manage a lot of  
NOTE Confidence: 0.735755831666667

00:57:05.142 --> 00:57:06.774 dysautonomia and patients with Parkinson's,  
NOTE Confidence: 0.735755831666667

00:57:06.774 --> 00:57:09.456 and so you might might send them to a  
NOTE Confidence: 0.735755831666667

00:57:09.456 --> 00:57:11.406 neurologist if you diagnose these again,  
NOTE Confidence: 0.735755831666667

00:57:11.410 --> 00:57:15.186 sleep urology is is is a thing as well,  
NOTE Confidence: 0.735755831666667

00:57:15.186 --> 00:57:16.880 so if they have your logic manifestations,  
NOTE Confidence: 0.735755831666667

00:57:16.880 --> 00:57:19.739 it's definitely possible.  
NOTE Confidence: 0.735755831666667

00:57:19.740 --> 00:57:19.920 Yeah,  
NOTE Confidence: 0.869552777

00:57:19.930 --> 00:57:22.294 and I think there are specific  
NOTE Confidence: 0.869552777

00:57:22.294 --> 00:57:23.870 centers that manage pots,  
NOTE Confidence: 0.869552777

00:57:23.870 --> 00:57:26.300 so pots was a specific diagnosis.  
NOTE Confidence: 0.869552777

00:57:26.300 --> 00:57:28.670 Cardiology would make the diagnosis.  
NOTE Confidence: 0.869552777

00:57:28.670 --> 00:57:31.134 There may or may not initiate treatment,  
NOTE Confidence: 0.869552777

00:57:31.140 --> 00:57:33.696 but there are some centers that  
NOTE Confidence: 0.869552777

00:57:33.696 --> 00:57:35.880 specialize in pots as well and then  
NOTE Confidence: 0.869552777

00:57:35.880 --> 00:57:37.230 we have another question about this.  
NOTE Confidence: 0.869552777

00:57:37.230 --> 00:57:38.307 Tonami and narcolepsy.



NOTE Confidence: 0.869552777

00:57:38.307 --> 00:57:40.820 Do you think that Zyra would have

NOTE Confidence: 0.869552777

00:57:40.890 --> 00:57:43.646 enough salt to be effective and and

NOTE Confidence: 0.869552777

00:57:43.646 --> 00:57:46.605 would wonder if this type of symptom

NOTE Confidence: 0.869552777

00:57:46.605 --> 00:57:48.360 would worsen when you switch from?

NOTE Confidence: 0.869552777

00:57:48.360 --> 00:57:50.168 My ziram to zywave.

NOTE Confidence: 0.736104176

00:57:50.820 --> 00:57:52.485 Yeah, so I think typically

NOTE Confidence: 0.736104176

00:57:52.485 --> 00:57:54.150 ziron is thought to have

NOTE Confidence: 0.863209138333333

00:57:56.260 --> 00:57:58.030 2000% of the daily salt intake,

NOTE Confidence: 0.863209138333333

00:57:58.030 --> 00:58:00.558 which you know it's a lot of salt.

NOTE Confidence: 0.863209138333333

00:58:00.560 --> 00:58:01.964 When we, when we usually give

NOTE Confidence: 0.863209138333333

00:58:01.964 --> 00:58:03.480 me to the pediatric population,

NOTE Confidence: 0.863209138333333

00:58:03.480 --> 00:58:04.852 we don't think about it so much

NOTE Confidence: 0.863209138333333

00:58:04.852 --> 00:58:06.483 and a lot of them will actually

NOTE Confidence: 0.863209138333333

00:58:06.483 --> 00:58:07.971 feel really really good on it.

NOTE Confidence: 0.863209138333333

00:58:07.980 --> 00:58:10.540 Anecdotaly, I haven't had anybody

NOTE Confidence: 0.863209138333333

00:58:10.540 --> 00:58:13.100 feel worse switching desire wave.  
NOTE Confidence: 0.8632091383333333

00:58:13.100 --> 00:58:14.140 I've had people just say,  
NOTE Confidence: 0.8632091383333333

00:58:14.140 --> 00:58:15.652 like you know what I like Zara  
NOTE Confidence: 0.8632091383333333

00:58:15.652 --> 00:58:17.050 better than Zywave in case anyways,  
NOTE Confidence: 0.8632091383333333

00:58:17.050 --> 00:58:19.282 because some people will say zywave  
NOTE Confidence: 0.8632091383333333

00:58:19.282 --> 00:58:21.630 taste like cleaning solution to them.  
NOTE Confidence: 0.8632091383333333

00:58:21.630 --> 00:58:24.366 That being said, that being said,  
NOTE Confidence: 0.8632091383333333

00:58:24.370 --> 00:58:27.750 Ziram does have a lot of salt to begin with,  
NOTE Confidence: 0.8632091383333333

00:58:27.750 --> 00:58:29.630 and so some people struggle  
NOTE Confidence: 0.8632091383333333

00:58:29.630 --> 00:58:31.610 consuming enough water and salt,  
NOTE Confidence: 0.8632091383333333

00:58:31.610 --> 00:58:33.490 and so if you can just get away with cyrum,  
NOTE Confidence: 0.8632091383333333

00:58:33.490 --> 00:58:35.996 it's definitely one of those things where.  
NOTE Confidence: 0.8632091383333333

00:58:36.000 --> 00:58:38.556 I would stick with Xyrem rather  
NOTE Confidence: 0.8632091383333333

00:58:38.556 --> 00:58:40.706 than suggesting Zywave because of  
NOTE Confidence: 0.8632091383333333

00:58:40.706 --> 00:58:43.304 that increased salt load in that  
NOTE Confidence: 0.8632091383333333

00:58:43.304 --> 00:58:45.725 medication we have given our pediatric

NOTE Confidence: 0.863209138333333

00:58:45.725 --> 00:58:48.276 patients salt tabs on top of the

NOTE Confidence: 0.863209138333333

00:58:48.276 --> 00:58:50.628 ziram because they did have pots and

NOTE Confidence: 0.863209138333333

00:58:50.628 --> 00:58:54.490 they continue to feel terrible, but.

NOTE Confidence: 0.863209138333333

00:58:54.490 --> 00:58:56.086 Maybe one of those times where

NOTE Confidence: 0.863209138333333

00:58:56.086 --> 00:58:57.570 the exam is probably better.

NOTE Confidence: 0.863209138333333

00:58:57.570 --> 00:59:00.060 If you do have this autonomia

NOTE Confidence: 0.863209138333333

00:59:00.060 --> 00:59:01.850 orthostasis syncope, or near syncope.

NOTE Confidence: 0.808342931666667

00:59:04.460 --> 00:59:06.560 OK, well we're past the hour.

NOTE Confidence: 0.808342931666667

00:59:06.560 --> 00:59:09.206 I know we have a great speaker for a

NOTE Confidence: 0.808342931666667

00:59:09.206 --> 00:59:11.502 state chest at over in the pulmonary

NOTE Confidence: 0.808342931666667

00:59:11.502 --> 00:59:14.015 side so I wanna thank you everyone

NOTE Confidence: 0.808342931666667

00:59:14.015 --> 00:59:15.830 for joining and also some great

NOTE Confidence: 0.808342931666667

00:59:15.830 --> 00:59:17.900 comments that you did a great job

NOTE Confidence: 0.808342931666667

00:59:17.900 --> 00:59:20.238 zoom in on the comments section and I

NOTE Confidence: 0.808342931666667

00:59:20.238 --> 00:59:22.366 appreciate it and have a great week.

NOTE Confidence: 0.808342931666667

00:59:22.650 --> 00:59:23.410 Thanks everyone.

NOTE Confidence: 0.821470731428572

00:59:24.620 --> 00:59:27.000 Thanks so much. See you next week.