

WEBVTT

NOTE duration:"00:59:22.1760000"

NOTE language:en-us

NOTE Confidence: 0.920546

00:00:05.530 --> 00:00:06.150 Alright.

NOTE Confidence: 0.81509787

00:00:10.160 --> 00:00:13.490 Let's see, people are filing in. Perfect.

NOTE Confidence: 0.81515574

00:00:20.570 --> 00:00:22.370 Alright, well good afternoon everybody.

NOTE Confidence: 0.81515574

00:00:22.370 --> 00:00:24.938 My name is Andres in truck and thank

NOTE Confidence: 0.81515574

00:00:24.938 --> 00:00:27.437 you again for joining us for yet

NOTE Confidence: 0.81515574

00:00:27.437 --> 00:00:29.678 another edition of the joint Yale

NOTE Confidence: 0.81515574

00:00:29.678 --> 00:00:31.982 Harvard Tufts Sleep Seminars and in

NOTE Confidence: 0.81515574

00:00:31.982 --> 00:00:34.484 the setting of the Yale Sleep Center,

NOTE Confidence: 0.81515574

00:00:34.484 --> 00:00:36.500 there occurs at 2:00 PM and

NOTE Confidence: 0.81515574

00:00:36.570 --> 00:00:38.520 every Wednesday and so today.

NOTE Confidence: 0.81515574

00:00:38.520 --> 00:00:40.674 We are lucky to hear from

NOTE Confidence: 0.81515574

00:00:40.674 --> 00:00:42.110 Doctor Auster from Tufts,

NOTE Confidence: 0.81515574

00:00:42.110 --> 00:00:44.258 will be introduced by Doctor Grover.

NOTE Confidence: 0.81515574

00:00:44.260 --> 00:00:46.700 But first I just want to take a

NOTE Confidence: 0.81515574

00:00:46.700 --> 00:00:49.056 moment to ensure that everyone is

NOTE Confidence: 0.81515574

00:00:49.056 --> 00:00:51.930 muted who is not speaking during the.

NOTE Confidence: 0.81515574

00:00:51.930 --> 00:00:53.530 Presentation if you are interested

NOTE Confidence: 0.81515574

00:00:53.530 --> 00:00:55.130 in receiving credit for attendance,

NOTE Confidence: 0.81515574

00:00:55.130 --> 00:00:57.038 please see the chat room for

NOTE Confidence: 0.81515574

00:00:57.038 --> 00:00:59.078 instructions and you can text the

NOTE Confidence: 0.81515574

00:00:59.078 --> 00:01:00.848 unique ID for this conference

NOTE Confidence: 0.81515574

00:01:00.848 --> 00:01:03.074 anytime between 1:45 PM and 3:15 PM

NOTE Confidence: 0.81515574

00:01:03.074 --> 00:01:05.050 to receive credit and if you're not

NOTE Confidence: 0.81515574

00:01:05.050 --> 00:01:06.970 already registered with the DLC Me,

NOTE Confidence: 0.81515574

00:01:06.970 --> 00:01:09.250 you will have to do that first and

NOTE Confidence: 0.81515574

00:01:09.250 --> 00:01:11.130 for questions in your presentation,

NOTE Confidence: 0.81515574

00:01:11.130 --> 00:01:13.538 please make sure to use the chat rooms

NOTE Confidence: 0.81515574

00:01:13.538 --> 00:01:15.672 throughout the hour and I will help

NOTE Confidence: 0.81515574

00:01:15.672 --> 00:01:17.560 moderate the discussion just to let

NOTE Confidence: 0.81515574

00:01:17.560 --> 00:01:19.672 you know that the recorded versions
NOTE Confidence: 0.81515574

00:01:19.672 --> 00:01:21.370 of these presentations are available
NOTE Confidence: 0.81515574

00:01:21.370 --> 00:01:23.290 online within a couple of weeks.
NOTE Confidence: 0.81515574

00:01:23.290 --> 00:01:26.926 2 weeks at the link provided in the chat.
NOTE Confidence: 0.81515574

00:01:26.930 --> 00:01:27.480 So finally,
NOTE Confidence: 0.81515574

00:01:27.480 --> 00:01:28.030 as usual,
NOTE Confidence: 0.81515574

00:01:28.030 --> 00:01:29.680 please feel free to share the
NOTE Confidence: 0.81515574

00:01:29.743 --> 00:01:31.127 announcements for this weekly
NOTE Confidence: 0.81515574

00:01:31.127 --> 00:01:32.857 lecture series with anyone who
NOTE Confidence: 0.81515574

00:01:32.857 --> 00:01:34.910 you think might be interested or
NOTE Confidence: 0.81515574

00:01:34.910 --> 00:01:36.560 have them contact Debbie Lovejoy
NOTE Confidence: 0.81515574

00:01:36.560 --> 00:01:38.807 to be added to our mailing list.
NOTE Confidence: 0.81515574

00:01:38.810 --> 00:01:41.058 And so this turns out to be our
NOTE Confidence: 0.81515574

00:01:41.058 --> 00:01:43.300 last joint conference for the year,
NOTE Confidence: 0.81515574

00:01:43.300 --> 00:01:46.190 and so we're going to go out with a with
NOTE Confidence: 0.81515574

00:01:46.262 --> 00:01:49.078 a bang and looking forward to the talk,

NOTE Confidence: 0.81515574

00:01:49.080 --> 00:01:51.432 and so I will hand the mic over

NOTE Confidence: 0.81515574

00:01:51.432 --> 00:01:53.249 to Doctor Grover at Tufts.

NOTE Confidence: 0.80249673

00:01:55.360 --> 00:01:56.928 Hi good afternoon everyone.

NOTE Confidence: 0.80249673

00:01:56.928 --> 00:02:00.000 It's my pleasure to introduce my colleague,

NOTE Confidence: 0.80249673

00:02:00.000 --> 00:02:01.326 Doctor Joe Lasker.

NOTE Confidence: 0.80249673

00:02:01.326 --> 00:02:03.536 Today he's an esteemed colleague

NOTE Confidence: 0.80249673

00:02:03.536 --> 00:02:06.919 here at Tufts for many years and I'm

NOTE Confidence: 0.80249673

00:02:06.919 --> 00:02:09.290 it's really great working with him.

NOTE Confidence: 0.80249673

00:02:09.290 --> 00:02:11.894 It he's one of our adapter Oscar

NOTE Confidence: 0.80249673

00:02:11.894 --> 00:02:14.046 completed his medical degree from

NOTE Confidence: 0.80249673

00:02:14.046 --> 00:02:16.456 Boston University School of Medicine.

NOTE Confidence: 0.80249673

00:02:16.460 --> 00:02:19.316 He then went on to do his residency

NOTE Confidence: 0.80249673

00:02:19.316 --> 00:02:21.430 at Tufts Medical Center and

NOTE Confidence: 0.80249673

00:02:21.430 --> 00:02:24.058 followed by a year of fellowship

NOTE Confidence: 0.80249673

00:02:24.058 --> 00:02:26.940 in Neurology and now Fellowship.

NOTE Confidence: 0.80249673

00:02:26.940 --> 00:02:29.555 Add mass General Hospital in
NOTE Confidence: 0.80249673

00:02:29.555 --> 00:02:32.170 epilepsy and e.g enable potentials.
NOTE Confidence: 0.80249673

00:02:32.170 --> 00:02:35.733 He's he started his career at Leahy
NOTE Confidence: 0.80249673

00:02:35.733 --> 00:02:39.650 Clinic and he was there for some time
NOTE Confidence: 0.80249673

00:02:39.650 --> 00:02:43.203 and then he's been a tough since
NOTE Confidence: 0.80249673

00:02:43.203 --> 00:02:47.270 2015 and he is a faculty associate
NOTE Confidence: 0.80249673

00:02:47.270 --> 00:02:51.860 professor here at Tufts Medical Center.
NOTE Confidence: 0.80249673

00:02:51.860 --> 00:02:54.100 And he's also in neurology,
NOTE Confidence: 0.80249673

00:02:54.100 --> 00:02:56.788 and he's the director of e.g.
NOTE Confidence: 0.80249673

00:02:56.790 --> 00:02:59.658 And the intraop neurophysiology.
NOTE Confidence: 0.80249673

00:02:59.660 --> 00:03:01.916 A clinic as well and he's,
NOTE Confidence: 0.80249673

00:03:01.920 --> 00:03:04.755 you know it's a pleasure to have
NOTE Confidence: 0.80249673

00:03:04.755 --> 00:03:07.347 a neurologist in our sleep center
NOTE Confidence: 0.80249673

00:03:07.347 --> 00:03:10.357 whose sleep boarded and has been a.
NOTE Confidence: 0.80249673

00:03:10.360 --> 00:03:12.215 Important part of our fellowship
NOTE Confidence: 0.80249673

00:03:12.215 --> 00:03:14.070 and and without further ado,

NOTE Confidence: 0.80249673

00:03:14.070 --> 00:03:16.296 I'd like to introduce Doctor Auster.

NOTE Confidence: 0.89399046

00:03:18.080 --> 00:03:20.425 Thank you for that very kind introduction

NOTE Confidence: 0.89399046

00:03:20.425 --> 00:03:23.077 and what an honor and privilege to be

NOTE Confidence: 0.89399046

00:03:23.077 --> 00:03:25.420 here today to lecture at this joint.

NOTE Confidence: 0.89399046

00:03:25.420 --> 00:03:28.916 Lecture series. As a.

NOTE Confidence: 0.89399046

00:03:28.916 --> 00:03:31.634 Individual has primarily been a clinician.

NOTE Confidence: 0.89399046

00:03:31.640 --> 00:03:34.090 I really leaned on the.

NOTE Confidence: 0.89399046

00:03:34.090 --> 00:03:35.646 Giants have great researchers,

NOTE Confidence: 0.89399046

00:03:35.646 --> 00:03:38.950 many of whom may actually be joining the

NOTE Confidence: 0.89399046

00:03:38.950 --> 00:03:41.210 session from the injunctive faculty.

NOTE Confidence: 0.8605837

00:03:43.310 --> 00:03:46.574 With this team I mentioned their work in

NOTE Confidence: 0.8605837

00:03:46.574 --> 00:03:49.677 passing and to make everyone an expert

NOTE Confidence: 0.8605837

00:03:49.677 --> 00:03:52.296 and maybe even a hypersomnia. Activist,

NOTE Confidence: 0.8605837

00:03:52.296 --> 00:03:54.376 these patients are very interesting.

NOTE Confidence: 0.8605837

00:03:54.380 --> 00:03:56.690 They're very challenging.

NOTE Confidence: 0.8605837

00:03:56.690 --> 00:04:00.540 They deserve our compassion and.
NOTE Confidence: 0.8605837

00:04:00.540 --> 00:04:03.039 To work with them is often difficult
NOTE Confidence: 0.8605837

00:04:03.039 --> 00:04:06.218 because of the lack of definitive therapies,
NOTE Confidence: 0.8605837

00:04:06.220 --> 00:04:08.980 particularly for idiopathic hypersomnia.
NOTE Confidence: 0.8605837

00:04:08.980 --> 00:04:11.444 And I will touch on those points
NOTE Confidence: 0.8605837

00:04:11.444 --> 00:04:13.190 throughout the lecture and hopefully
NOTE Confidence: 0.8605837

00:04:13.190 --> 00:04:16.020 leave you all with the state of the art.
NOTE Confidence: 0.8605837

00:04:16.020 --> 00:04:18.624 What is known about the general
NOTE Confidence: 0.8605837

00:04:18.624 --> 00:04:20.360 clinical aspects of hypersomnia?
NOTE Confidence: 0.8605837

00:04:20.360 --> 00:04:22.047 So in the upper left is a
NOTE Confidence: 0.8605837

00:04:22.047 --> 00:04:23.759 shot of Tufts Medical Center.
NOTE Confidence: 0.8605837

00:04:23.760 --> 00:04:27.900 And I Chinatown area Boston and
NOTE Confidence: 0.8605837

00:04:27.900 --> 00:04:30.660 hypersomnia is a particularly.
NOTE Confidence: 0.8605837

00:04:30.660 --> 00:04:33.740 Narcolepsy is a tetrad which is due
NOTE Confidence: 0.8605837

00:04:33.740 --> 00:04:35.542 to inappropriate sleepiness and
NOTE Confidence: 0.8605837

00:04:35.542 --> 00:04:38.014 then the other features that are

NOTE Confidence: 0.8605837

00:04:38.014 --> 00:04:39.879 the ancillary symptoms such as.

NOTE Confidence: 0.8605837

00:04:39.880 --> 00:04:42.005 Cataplexy from a strong emotion

NOTE Confidence: 0.8605837

00:04:42.005 --> 00:04:42.855 sleep paralysis.

NOTE Confidence: 0.8605837

00:04:42.860 --> 00:04:45.280 And here's my rendition of

NOTE Confidence: 0.8605837

00:04:45.280 --> 00:04:47.700 neurotransmitters in the brain causing.

NOTE Confidence: 0.8605837

00:04:47.700 --> 00:04:48.502 Hypnagogic phenomenon,

NOTE Confidence: 0.8605837

00:04:48.502 --> 00:04:51.710 but I was privileged to work on the

NOTE Confidence: 0.8605837

00:04:51.781 --> 00:04:54.409 most up-to-date 3rd edition of Netter.

NOTE Confidence: 0.8605837

00:04:54.410 --> 00:04:56.426 Neurology and this is from the chapter

NOTE Confidence: 0.8605837

00:04:56.426 --> 00:04:58.788 that myself and my mentor Paul Gross at Co.

NOTE Confidence: 0.8605837

00:04:58.790 --> 00:05:03.540 Author. This is van Gogh's.

NOTE Confidence: 0.8605837

00:05:03.540 --> 00:05:08.600 Rendition of Siesta after Malay, I believe.

NOTE Confidence: 0.8605837

00:05:08.600 --> 00:05:10.780 What struck?

NOTE Confidence: 0.8605837

00:05:10.780 --> 00:05:12.169 Me was that.

NOTE Confidence: 0.8605837

00:05:12.169 --> 00:05:15.410 It's somehow inappropriate with the flood of.

NOTE Confidence: 0.8605837

00:05:15.410 --> 00:05:18.014 Yellow and and and tinged orange shoes.

NOTE Confidence: 0.8605837

00:05:18.020 --> 00:05:20.258 It seems that this sleep is

NOTE Confidence: 0.8605837

00:05:20.258 --> 00:05:21.377 somehow inappropriate midday.

NOTE Confidence: 0.7944309

00:05:25.990 --> 00:05:28.348 Disclosures I cannot.

NOTE Confidence: 0.7944309

00:05:28.350 --> 00:05:29.830 Co investigator or principal investigator.

NOTE Confidence: 0.7944309

00:05:29.830 --> 00:05:31.014 Number of epilepsy trials.

NOTE Confidence: 0.7944309

00:05:31.014 --> 00:05:32.198 None for Sleep Medicine.

NOTE Confidence: 0.7944309

00:05:32.200 --> 00:05:34.692 I'm like coauthor in two editions of

NOTE Confidence: 0.7944309

00:05:34.692 --> 00:05:36.698 the Native neurology book I served.

NOTE Confidence: 0.7944309

00:05:36.700 --> 00:05:38.660 As an advocacy and advocate on the

NOTE Confidence: 0.7944309

00:05:38.660 --> 00:05:40.140 Epilepsy Foundation of New England.

NOTE Confidence: 0.8933252

00:05:42.210 --> 00:05:45.706 All my money is going to the institution.

NOTE Confidence: 0.8933252

00:05:45.710 --> 00:05:48.125 So there is no commercial support and

NOTE Confidence: 0.8933252

00:05:48.125 --> 00:05:50.749 there are no conflicts of interest.

NOTE Confidence: 0.8933252

00:05:50.750 --> 00:05:54.145 I will overview the current research that

NOTE Confidence: 0.8933252

00:05:54.145 --> 00:05:56.517 active on idiopathic hypersomnia and

NOTE Confidence: 0.8933252

00:05:56.517 --> 00:05:59.837 I'm going to touch on some off label.

NOTE Confidence: 0.8933252

00:05:59.840 --> 00:06:01.646 Items I'm not advocating for them,

NOTE Confidence: 0.8933252

00:06:01.650 --> 00:06:03.822 I'm just describing I want people

NOTE Confidence: 0.8933252

00:06:03.822 --> 00:06:05.520 to understand the breath of.

NOTE Confidence: 0.8933252

00:06:05.520 --> 00:06:06.828 The current state of the art

NOTE Confidence: 0.8933252

00:06:06.828 --> 00:06:08.060 with regards to that entity.

NOTE Confidence: 0.87053204

00:06:11.410 --> 00:06:13.489 So the learning objectives are to give

NOTE Confidence: 0.87053204

00:06:13.489 --> 00:06:15.568 you a comprehensive review of hypersomnia.

NOTE Confidence: 0.87053204

00:06:15.570 --> 00:06:17.170 It's under recognized especially

NOTE Confidence: 0.87053204

00:06:17.170 --> 00:06:18.770 as a primary disorder.

NOTE Confidence: 0.87053204

00:06:18.770 --> 00:06:20.626 And I'm going to start with the case,

NOTE Confidence: 0.87053204

00:06:20.630 --> 00:06:22.148 and then I'm going to conclude

NOTE Confidence: 0.87053204

00:06:22.148 --> 00:06:23.803 with another case of how even

NOTE Confidence: 0.87053204

00:06:23.803 --> 00:06:24.991 seasons Sleep Medicine experts

NOTE Confidence: 0.87053204

00:06:24.991 --> 00:06:26.880 fail to recognize it in a patient.

NOTE Confidence: 0.87053204

00:06:26.880 --> 00:06:28.930 Patients may not be adequately
NOTE Confidence: 0.87053204

00:06:28.930 --> 00:06:30.570 evaluated for secondary causes.
NOTE Confidence: 0.87053204

00:06:30.570 --> 00:06:32.370 Anne, this lecture will allow learners
NOTE Confidence: 0.87053204

00:06:32.370 --> 00:06:34.270 to understand both the neurobiology,
NOTE Confidence: 0.87053204

00:06:34.270 --> 00:06:36.454 the clinical features of the primary
NOTE Confidence: 0.87053204

00:06:36.454 --> 00:06:38.900 hypersomnia and those that are secondarily.
NOTE Confidence: 0.87053204

00:06:38.900 --> 00:06:41.224 'cause a middle ground disorder is epilepsy.
NOTE Confidence: 0.87053204

00:06:41.230 --> 00:06:42.244 Patients with epilepsy.
NOTE Confidence: 0.87053204

00:06:42.244 --> 00:06:44.610 There is some debate as to whether
NOTE Confidence: 0.87053204

00:06:44.677 --> 00:06:46.603 or not the sleep dysfunction and
NOTE Confidence: 0.87053204

00:06:46.603 --> 00:06:48.602 the sleepiness is part of the
NOTE Confidence: 0.87053204

00:06:48.602 --> 00:06:50.237 primary disorder or whether it's
NOTE Confidence: 0.87053204

00:06:50.237 --> 00:06:53.728 secondary due to the nature of the.
NOTE Confidence: 0.87053204

00:06:53.730 --> 00:06:55.178 Pathways and the neurotransmitters
NOTE Confidence: 0.87053204

00:06:55.178 --> 00:06:56.626 in the underlying substrate.
NOTE Confidence: 0.87053204

00:06:56.630 --> 00:06:57.116 The brain.

NOTE Confidence: 0.87053204

00:06:57.116 --> 00:06:59.060 So the second point is this lecture will

NOTE Confidence: 0.87053204

00:06:59.115 --> 00:07:00.975 review an overview of the neurobiology

NOTE Confidence: 0.87053204

00:07:00.975 --> 00:07:03.130 regarding sleep and weight normal substrates,

NOTE Confidence: 0.87053204

00:07:03.130 --> 00:07:06.208 and I will rely heavily on work of others.

NOTE Confidence: 0.87053204

00:07:06.210 --> 00:07:08.280 This lecture reviews the mechanisms that

NOTE Confidence: 0.87053204

00:07:08.280 --> 00:07:11.020 are known in primary and secondary insomnia,

NOTE Confidence: 0.87053204

00:07:11.020 --> 00:07:14.556 and then I plan to review the actual.

NOTE Confidence: 0.87053204

00:07:14.560 --> 00:07:16.390 Relevant 8 ASM practice parameters

NOTE Confidence: 0.87053204

00:07:16.390 --> 00:07:17.488 that are available.

NOTE Confidence: 0.87053204

00:07:17.490 --> 00:07:21.510 Many of them are quite of 13 or 15 years old.

NOTE Confidence: 0.87053204

00:07:21.510 --> 00:07:24.438 At this point there is a update up-to-date.

NOTE Confidence: 0.84189093

00:07:27.010 --> 00:07:28.945 It was an up to date chat that was

NOTE Confidence: 0.84189093

00:07:28.945 --> 00:07:30.688 generated to to the members to update

NOTE Confidence: 0.84189093

00:07:30.688 --> 00:07:32.260 some of those practice parameters,

NOTE Confidence: 0.84189093

00:07:32.260 --> 00:07:35.186 but they're not yet on the site.

NOTE Confidence: 0.84189093

00:07:35.190 --> 00:07:37.344 And this is particularly relevant because

NOTE Confidence: 0.84189093

00:07:37.344 --> 00:07:39.742 we will see how idiopathic hypersomnia

NOTE Confidence: 0.84189093

00:07:39.742 --> 00:07:42.878 entity is evolving in the literature and.

NOTE Confidence: 0.84189093

00:07:42.880 --> 00:07:47.065 May need to be caught up in our society.

NOTE Confidence: 0.84189093

00:07:47.070 --> 00:07:47.926 Practice points.

NOTE Confidence: 0.84189093

00:07:47.926 --> 00:07:51.350 So in Boston we like many other places,

NOTE Confidence: 0.84189093

00:07:51.350 --> 00:07:53.234 we have a number of higher

NOTE Confidence: 0.84189093

00:07:53.234 --> 00:07:54.490 centers of higher learning,

NOTE Confidence: 0.84189093

00:07:54.490 --> 00:07:57.140 and so we now have acquired a an array of

NOTE Confidence: 0.84189093

00:07:57.213 --> 00:08:00.061 young patients in their late teens and 20s

NOTE Confidence: 0.84189093

00:08:00.061 --> 00:08:02.656 who suddenly have a problem such as this.

NOTE Confidence: 0.84189093

00:08:02.660 --> 00:08:04.924 So I will describe a 22 year old

NOTE Confidence: 0.84189093

00:08:04.924 --> 00:08:06.796 patient who has difficulty staying

NOTE Confidence: 0.84189093

00:08:06.796 --> 00:08:08.856 awake during college even with

NOTE Confidence: 0.84189093

00:08:08.856 --> 00:08:10.910 nine hours of sleep at night.

NOTE Confidence: 0.84189093

00:08:10.910 --> 00:08:13.129 Falls asleep in class at another time,

NOTE Confidence: 0.84189093

00:08:13.130 --> 00:08:15.542 but notices curiously that he's refreshed

NOTE Confidence: 0.84189093

00:08:15.542 --> 00:08:18.519 with a very brief 5 to 10 minute nap.

NOTE Confidence: 0.84189093

00:08:18.520 --> 00:08:19.144 More recently,

NOTE Confidence: 0.84189093

00:08:19.144 --> 00:08:21.328 he would have to lean against something,

NOTE Confidence: 0.84189093

00:08:21.330 --> 00:08:22.920 especially if you became emotional

NOTE Confidence: 0.84189093

00:08:22.920 --> 00:08:25.463 in his legs or he'd have a feeling

NOTE Confidence: 0.84189093

00:08:25.463 --> 00:08:26.938 that his head might drop.

NOTE Confidence: 0.84189093

00:08:26.940 --> 00:08:29.481 But sometimes it would be so subtle

NOTE Confidence: 0.84189093

00:08:29.481 --> 00:08:31.598 that others might not detect it.

NOTE Confidence: 0.84189093

00:08:31.600 --> 00:08:33.120 He emerges from his naps,

NOTE Confidence: 0.84189093

00:08:33.120 --> 00:08:34.630 unable to move and awake.

NOTE Confidence: 0.84189093

00:08:34.630 --> 00:08:36.150 It might see scary images,

NOTE Confidence: 0.84189093

00:08:36.150 --> 00:08:37.053 but he's paralyzed.

NOTE Confidence: 0.84189093

00:08:37.053 --> 00:08:37.956 He can't scream.

NOTE Confidence: 0.84189093

00:08:37.960 --> 00:08:38.574 Can't talk.

NOTE Confidence: 0.84189093

00:08:38.574 --> 00:08:39.188 Units that,
NOTE Confidence: 0.84189093

00:08:39.188 --> 00:08:41.030 while he might have had sleepiness
NOTE Confidence: 0.84189093

00:08:41.090 --> 00:08:42.872 as a youngster while in high
NOTE Confidence: 0.84189093

00:08:42.872 --> 00:08:44.420 school earlier the symptoms have
NOTE Confidence: 0.84189093

00:08:44.420 --> 00:08:45.955 become more manifest recently when
NOTE Confidence: 0.84189093

00:08:45.955 --> 00:08:48.027 he really needs to be awake and
NOTE Confidence: 0.84189093

00:08:48.027 --> 00:08:49.980 concentrate and do his best the most.
NOTE Confidence: 0.84189093

00:08:49.980 --> 00:08:52.698 And in one of these colleges.
NOTE Confidence: 0.84189093

00:08:52.700 --> 00:08:55.530 So Ted Cruz is going to give us a nice
NOTE Confidence: 0.84189093

00:08:55.608 --> 00:08:58.740 visual of what it looks like to be sleepy.
NOTE Confidence: 0.84189093

00:08:58.740 --> 00:08:59.583 So you know,
NOTE Confidence: 0.84189093

00:08:59.583 --> 00:09:01.550 we can see a patient like this
NOTE Confidence: 0.84189093

00:09:01.619 --> 00:09:03.187 in the neurology clinic,
NOTE Confidence: 0.84189093

00:09:03.190 --> 00:09:04.780 and the differential might be
NOTE Confidence: 0.84189093

00:09:04.780 --> 00:09:06.052 myasthenia gravis or weakness.
NOTE Confidence: 0.84189093

00:09:06.060 --> 00:09:08.244 But this was a this was a state

NOTE Confidence: 0.84189093

00:09:08.244 --> 00:09:09.870 of the Union address,

NOTE Confidence: 0.84189093

00:09:09.870 --> 00:09:11.460 where depends on what side

NOTE Confidence: 0.84189093

00:09:11.460 --> 00:09:13.050 of the aisle you are,

NOTE Confidence: 0.84189093

00:09:13.050 --> 00:09:14.640 whether this sleeping this was

NOTE Confidence: 0.84189093

00:09:14.640 --> 00:09:15.594 appropriate or inappropriate,

NOTE Confidence: 0.84189093

00:09:15.600 --> 00:09:17.185 but excessive daytime sleepiness is

NOTE Confidence: 0.84189093

00:09:17.185 --> 00:09:18.453 generally an inappropriate response.

NOTE Confidence: 0.84189093

00:09:18.460 --> 00:09:21.386 That is time poorly to life circumstances.

NOTE Confidence: 0.84189093

00:09:21.390 --> 00:09:23.575 So based on the international

NOTE Confidence: 0.84189093

00:09:23.575 --> 00:09:25.323 classification of sleep disorders.

NOTE Confidence: 0.84189093

00:09:25.330 --> 00:09:27.466 EDS or excessive daytime sleepiness is

NOTE Confidence: 0.84189093

00:09:27.466 --> 00:09:29.777 excessive when it causes a subjective

NOTE Confidence: 0.84189093

00:09:29.777 --> 00:09:31.837 complaint or interferes with function.

NOTE Confidence: 0.84189093

00:09:31.840 --> 00:09:33.705 And its inability to maintain

NOTE Confidence: 0.84189093

00:09:33.705 --> 00:09:35.570 wakefulness and alertness during the

NOTE Confidence: 0.84189093

00:09:35.635 --> 00:09:38.011 major waking episodes of the day
NOTE Confidence: 0.84189093

00:09:38.011 --> 00:09:39.595 with sleep occurring inappropriately.
NOTE Confidence: 0.84189093

00:09:39.600 --> 00:09:40.662 Hypersomnia and hypersomnolence.
NOTE Confidence: 0.84189093

00:09:40.662 --> 00:09:41.016 No,
NOTE Confidence: 0.84189093

00:09:41.016 --> 00:09:43.939 it's just someone who's just a minor nuances,
NOTE Confidence: 0.84189093

00:09:43.940 --> 00:09:46.096 but it's used these these terms are
NOTE Confidence: 0.84189093

00:09:46.096 --> 00:09:48.410 using to tame interchangeably when.
NOTE Confidence: 0.84189093

00:09:48.410 --> 00:09:50.118 Sleepiness occurs that's inappropriate.
NOTE Confidence: 0.84189093

00:09:50.118 --> 00:09:51.826 When wakefulness is expected,
NOTE Confidence: 0.84189093

00:09:51.830 --> 00:09:54.819 and hypersomnia is as a disorder is
NOTE Confidence: 0.84189093

00:09:54.819 --> 00:09:56.100 characterized by hypersomnolence.
NOTE Confidence: 0.84189093

00:09:56.100 --> 00:09:57.804 Fatigue is everything else.
NOTE Confidence: 0.84189093

00:09:57.804 --> 00:09:59.508 So there are cytokines.
NOTE Confidence: 0.84189093

00:09:59.510 --> 00:10:00.564 Inflammatory processes,
NOTE Confidence: 0.84189093

00:10:00.564 --> 00:10:02.672 their psychiatric processes with
NOTE Confidence: 0.84189093

00:10:02.672 --> 00:10:05.616 fatigue is the subjective lack of

NOTE Confidence: 0.84189093

00:10:05.616 --> 00:10:07.541 physical and mental energy with

NOTE Confidence: 0.84189093

00:10:07.541 --> 00:10:09.410 a broad differential diagnosis.

NOTE Confidence: 0.84189093

00:10:09.410 --> 00:10:12.068 In the past, stimulants and sedatives,

NOTE Confidence: 0.84189093

00:10:12.070 --> 00:10:15.178 awake and asleep, was a binary enterprise.

NOTE Confidence: 0.84189093

00:10:15.180 --> 00:10:15.624 However,

NOTE Confidence: 0.84189093

00:10:15.624 --> 00:10:18.732 we learn from some of the great

NOTE Confidence: 0.84189093

00:10:18.732 --> 00:10:19.620 science behind,

NOTE Confidence: 0.84189093

00:10:19.620 --> 00:10:21.876 such as from Clifford Saper's lab

NOTE Confidence: 0.84189093

00:10:21.876 --> 00:10:24.217 and and others that sleep maybe

NOTE Confidence: 0.84189093

00:10:24.217 --> 00:10:26.515 a continuum where it's a dimmer

NOTE Confidence: 0.84189093

00:10:26.515 --> 00:10:27.281 switch and

NOTE Confidence: 0.812052

00:10:27.353 --> 00:10:29.785 the primary hypersomnia is

NOTE Confidence: 0.812052

00:10:29.785 --> 00:10:31.609 particularly narcolepsy involved.

NOTE Confidence: 0.812052

00:10:31.610 --> 00:10:34.698 A loose dimmer switch where there is a

NOTE Confidence: 0.812052

00:10:34.698 --> 00:10:37.371 continuum of promotion of wakefulness

NOTE Confidence: 0.812052

00:10:37.371 --> 00:10:39.795 versus promotion of sleepiness.
NOTE Confidence: 0.812052

00:10:39.800 --> 00:10:42.806 And this talk will show you some of the
NOTE Confidence: 0.812052

00:10:42.806 --> 00:10:45.377 biological substrates to give you much
NOTE Confidence: 0.812052

00:10:45.377 --> 00:10:47.547 more rationality behind that analogy.
NOTE Confidence: 0.812052

00:10:47.550 --> 00:10:49.854 So sleep is a requisite for
NOTE Confidence: 0.812052

00:10:49.854 --> 00:10:51.390 optimal function immune system.
NOTE Confidence: 0.812052

00:10:51.390 --> 00:10:52.922 The cardiac cardiac muscle
NOTE Confidence: 0.812052

00:10:52.922 --> 00:10:54.454 requires it to rest,
NOTE Confidence: 0.812052

00:10:54.460 --> 00:10:56.890 and optimal optimally function and model
NOTE Confidence: 0.812052

00:10:56.890 --> 00:10:59.070 and remodel memories consolidate at night.
NOTE Confidence: 0.812052

00:10:59.070 --> 00:11:01.494 This pruning of the neurons and
NOTE Confidence: 0.812052

00:11:01.494 --> 00:11:03.591 sprouting and numerous processes that
NOTE Confidence: 0.812052

00:11:03.591 --> 00:11:05.646 occur verified by clinical studies
NOTE Confidence: 0.812052

00:11:05.646 --> 00:11:07.662 and observation and sleep deck
NOTE Confidence: 0.812052

00:11:07.662 --> 00:11:09.818 may be sub optimal to ones health,
NOTE Confidence: 0.812052

00:11:09.820 --> 00:11:12.660 and it relates to the need for sleep

NOTE Confidence: 0.812052

00:11:12.660 --> 00:11:15.938 which will talk about from some of the

NOTE Confidence: 0.812052

00:11:15.938 --> 00:11:18.210 epidemiology belie wise and others.

NOTE Confidence: 0.812052

00:11:18.210 --> 00:11:20.125 With characterized how that changes

NOTE Confidence: 0.812052

00:11:20.125 --> 00:11:22.040 throughout the lifespan and sleep

NOTE Confidence: 0.812052

00:11:22.104 --> 00:11:23.909 deprivation causes a physiological rebound

NOTE Confidence: 0.812052

00:11:23.909 --> 00:11:26.610 in sleep patterns in a certain manner.

NOTE Confidence: 0.812052

00:11:26.610 --> 00:11:28.186 And then primary secondary

NOTE Confidence: 0.812052

00:11:28.186 --> 00:11:30.550 causes by alluded to May Co.

NOTE Confidence: 0.812052

00:11:30.550 --> 00:11:33.318 Mingle with other disorders.

NOTE Confidence: 0.812052

00:11:33.320 --> 00:11:35.510 So the epidemiology of hypersomnia

NOTE Confidence: 0.812052

00:11:35.510 --> 00:11:36.824 pathological sleepiness is

NOTE Confidence: 0.812052

00:11:36.824 --> 00:11:38.910 a major cause of mobility.

NOTE Confidence: 0.812052

00:11:38.910 --> 00:11:40.630 Job loss, poor attention,

NOTE Confidence: 0.812052

00:11:40.630 --> 00:11:41.920 impacts driving focus,

NOTE Confidence: 0.812052

00:11:41.920 --> 00:11:42.350 focus,

NOTE Confidence: 0.812052

00:11:42.350 --> 00:11:44.500 social functioning and really a
NOTE Confidence: 0.812052

00:11:44.500 --> 00:11:46.220 non quantifiable societal cost.
NOTE Confidence: 0.812052

00:11:46.220 --> 00:11:49.230 The prevalence varies in the literature up
NOTE Confidence: 0.812052

00:11:49.230 --> 00:11:54.390 to 25% in US to one and 3300 or one in 5000.
NOTE Confidence: 0.812052

00:11:54.390 --> 00:11:56.246 In the United States.
NOTE Confidence: 0.812052

00:11:56.246 --> 00:11:58.566 And it may actually vary
NOTE Confidence: 0.812052

00:11:58.566 --> 00:12:00.180 throughout the lifespan,
NOTE Confidence: 0.812052

00:12:00.180 --> 00:12:02.016 particularly in in women,
NOTE Confidence: 0.812052

00:12:02.016 --> 00:12:04.311 excessively daytime sleepiness has been
NOTE Confidence: 0.812052

00:12:04.311 --> 00:12:07.007 reported to decrease in age in some studies,
NOTE Confidence: 0.812052

00:12:07.010 --> 00:12:10.594 and there is a general equal gender ratio
NOTE Confidence: 0.812052

00:12:10.594 --> 00:12:14.125 or female predominant up to two to one.
NOTE Confidence: 0.812052

00:12:14.130 --> 00:12:16.626 For women who developed excessive daytime
NOTE Confidence: 0.812052

00:12:16.626 --> 00:12:19.459 sleepiness and meet in a 10 year period,
NOTE Confidence: 0.812052

00:12:19.460 --> 00:12:21.746 that's an 8% to EDS development.
NOTE Confidence: 0.812052

00:12:21.750 --> 00:12:22.893 8% of women.

NOTE Confidence: 0.812052
00:12:22.893 --> 00:12:24.798 The strongest independent risk factors
NOTE Confidence: 0.812052
00:12:24.798 --> 00:12:26.706 were insomnia, smoking and then,
NOTE Confidence: 0.812052
00:12:26.706 --> 00:12:28.230 less important, more anxiety,
NOTE Confidence: 0.812052
00:12:28.230 --> 00:12:29.370 depression, somatic symptoms,
NOTE Confidence: 0.812052
00:12:29.370 --> 00:12:30.513 snoring, and obesity.
NOTE Confidence: 0.812052
00:12:30.513 --> 00:12:32.799 But depression and we sleep architecture.
NOTE Confidence: 0.812052
00:12:32.800 --> 00:12:34.520 In the neural pathways.
NOTE Confidence: 0.812052
00:12:34.520 --> 00:12:36.240 That immediately by depression
NOTE Confidence: 0.812052
00:12:36.240 --> 00:12:38.551 you'll see layers later in the
NOTE Confidence: 0.812052
00:12:38.551 --> 00:12:40.615 talk are sharing somewhat of the
NOTE Confidence: 0.812052
00:12:40.689 --> 00:12:42.809 same neurobiology and circuitry.
NOTE Confidence: 0.812052
00:12:42.810 --> 00:12:45.281 So this is a an article that
NOTE Confidence: 0.812052
00:12:45.281 --> 00:12:47.266 highlights how total sleep time
NOTE Confidence: 0.812052
00:12:47.266 --> 00:12:49.810 changes naps wake after sleep onset,
NOTE Confidence: 0.812052
00:12:49.810 --> 00:12:53.980 me altering women throughout the lifespan.
NOTE Confidence: 0.812052

00:12:53.980 --> 00:12:55.905 20,000 patients have narcolepsy United
NOTE Confidence: 0.812052

00:12:55.905 --> 00:12:57.830 States and about 3,000,000 worldwide.
NOTE Confidence: 0.812052

00:12:57.830 --> 00:12:59.210 This is an estimate.
NOTE Confidence: 0.812052

00:12:59.210 --> 00:13:01.280 It's the number one cause of
NOTE Confidence: 0.812052

00:13:01.354 --> 00:13:03.609 sleepiness in the United States.
NOTE Confidence: 0.812052

00:13:03.610 --> 00:13:06.568 Is not narcolepsy success, it's OSA.
NOTE Confidence: 0.812052

00:13:06.570 --> 00:13:08.542 Narcolepsy is number 2.
NOTE Confidence: 0.812052

00:13:08.542 --> 00:13:10.448 Approximately 5% of patients in
NOTE Confidence: 0.812052

00:13:10.448 --> 00:13:12.284 the sleep center have a primary
NOTE Confidence: 0.812052

00:13:12.284 --> 00:13:13.190 narcolepsy diagnosis,
NOTE Confidence: 0.812052

00:13:13.190 --> 00:13:15.410 with comorbid occurrence with a number
NOTE Confidence: 0.812052

00:13:15.410 --> 00:13:17.560 of other primary sleep disorders.
NOTE Confidence: 0.812052

00:13:17.560 --> 00:13:21.039 1/4 of patients with narcolepsy have OSA.
NOTE Confidence: 0.812052

00:13:21.040 --> 00:13:22.390 The prevalence of narcolepsy is
NOTE Confidence: 0.812052

00:13:22.390 --> 00:13:24.101 20 to 67 per 100,000 worldwide
NOTE Confidence: 0.812052

00:13:24.101 --> 00:13:25.616 and it occurs most often.

NOTE Confidence: 0.812052

00:13:25.620 --> 00:13:27.050 The second decade of life.

NOTE Confidence: 0.812052

00:13:27.050 --> 00:13:30.110 Although the patient I showed you.

NOTE Confidence: 0.812052

00:13:30.110 --> 00:13:32.576 In attack in the early 3rd Decade of life,

NOTE Confidence: 0.812052

00:13:32.580 --> 00:13:34.218 but the diagnosis is often delayed,

NOTE Confidence: 0.812052

00:13:34.220 --> 00:13:36.428 as in this case.

NOTE Confidence: 0.812052

00:13:36.430 --> 00:13:38.410 This is from the Seminole Paper

NOTE Confidence: 0.812052

00:13:38.410 --> 00:13:40.103 that's on the practice parameter

NOTE Confidence: 0.812052

00:13:40.103 --> 00:13:42.551 of how to manage one of the two

NOTE Confidence: 0.812052

00:13:42.551 --> 00:13:44.508 Seminole Papers on the ASM website.

NOTE Confidence: 0.812052

00:13:44.510 --> 00:13:45.740 Back in 20.

NOTE Confidence: 0.812052

00:13:45.740 --> 00:13:46.560 Oh seven.

NOTE Confidence: 0.812052

00:13:46.560 --> 00:13:49.485 There were 13 primary sleep

NOTE Confidence: 0.812052

00:13:49.485 --> 00:13:51.240 disorders that are.

NOTE Confidence: 0.6970775

00:13:51.240 --> 00:13:54.750 Identified in the category of hypersomnia.

NOTE Confidence: 0.6970775

00:13:54.750 --> 00:13:57.767 If you go on the hypersomnia foundation.org

NOTE Confidence: 0.6970775

00:13:57.767 --> 00:13:59.848 website which mentions the ICS D3,
NOTE Confidence: 0.6970775

00:13:59.850 --> 00:14:02.196 which is the most current classification
NOTE Confidence: 0.6970775

00:14:02.196 --> 00:14:04.546 of sleep disorders, there are eight.
NOTE Confidence: 0.6970775

00:14:04.546 --> 00:14:06.114 These include narcolepsy type,
NOTE Confidence: 0.6970775

00:14:06.120 --> 00:14:08.420 one with cataplexy, narcolepsy Type
NOTE Confidence: 0.6970775

00:14:08.420 --> 00:14:10.720 2 which doesn't have cataplexy.
NOTE Confidence: 0.6970775

00:14:10.720 --> 00:14:12.352 Idiopathic hypersomnia, which people
NOTE Confidence: 0.6970775

00:14:12.352 --> 00:14:15.299 wonder if it's not collapse E Type 3.
NOTE Confidence: 0.6970775

00:14:15.300 --> 00:14:17.620 But many of those patients
NOTE Confidence: 0.6970775

00:14:17.620 --> 00:14:18.548 biologically heavy.
NOTE Confidence: 0.6970775

00:14:18.550 --> 00:14:20.296 May have a normal hypocretin level,
NOTE Confidence: 0.6970775

00:14:20.300 --> 00:14:23.236 so is it really just an alteration of
NOTE Confidence: 0.6970775

00:14:23.236 --> 00:14:25.600 different part of the pathway or not?
NOTE Confidence: 0.6970775

00:14:25.600 --> 00:14:26.216 Let's talk.
NOTE Confidence: 0.6970775

00:14:26.216 --> 00:14:29.455 I'm not going to spend a lot of time if
NOTE Confidence: 0.6970775

00:14:29.455 --> 00:14:31.905 at all inclined to live in syndrome,

NOTE Confidence: 0.6970775

00:14:31.910 --> 00:14:33.765 which is a truly remains an enigma

NOTE Confidence: 0.6970775

00:14:33.765 --> 00:14:35.414 with these periods of hypersomnolence

NOTE Confidence: 0.6970775

00:14:35.414 --> 00:14:36.614 and hyperphagia hypersomnia

NOTE Confidence: 0.6970775

00:14:36.614 --> 00:14:38.214 due to medical condition,

NOTE Confidence: 0.6970775

00:14:38.220 --> 00:14:40.460 hypersomnia do a substance.

NOTE Confidence: 0.6970775

00:14:40.460 --> 00:14:43.260 Psychiatric condition and insufficient sleep.

NOTE Confidence: 0.6970775

00:14:43.260 --> 00:14:45.820 Up to date you'll have a slightly different

NOTE Confidence: 0.6970775

00:14:45.820 --> 00:14:47.799 category if you subscribe to that,

NOTE Confidence: 0.6970775

00:14:47.800 --> 00:14:51.504 they break it down in in this way.

NOTE Confidence: 0.6970775

00:14:51.510 --> 00:14:53.562 We use the Epworth scale to

NOTE Confidence: 0.6970775

00:14:53.562 --> 00:14:54.930 quantify level of sleepiness.

NOTE Confidence: 0.6970775

00:14:54.930 --> 00:14:57.054 Is a validated scale that allows

NOTE Confidence: 0.6970775

00:14:57.054 --> 00:14:59.661 you to really distill out from a

NOTE Confidence: 0.6970775

00:14:59.661 --> 00:15:01.157 patient's history that they're

NOTE Confidence: 0.6970775

00:15:01.157 --> 00:15:03.263 sleeping from a neurologic 'cause

NOTE Confidence: 0.6970775

00:15:03.263 --> 00:15:06.017 they're not depressed they don't have.

NOTE Confidence: 0.6970775

00:15:06.020 --> 00:15:07.675 Athenia they don't have tiredness

NOTE Confidence: 0.6970775

00:15:07.675 --> 00:15:09.330 from from an inflammatory state.

NOTE Confidence: 0.6970775

00:15:09.330 --> 00:15:11.015 The normal level of sleepiness

NOTE Confidence: 0.6970775

00:15:11.015 --> 00:15:12.970 is a score less than 10.

NOTE Confidence: 0.6970775

00:15:12.970 --> 00:15:15.004 The maximum on these eight questions

NOTE Confidence: 0.6970775

00:15:15.004 --> 00:15:17.053 is 24 patients who have sleep

NOTE Confidence: 0.6970775

00:15:17.053 --> 00:15:19.258 apnea are often in the 11:50 range.

NOTE Confidence: 0.6970775

00:15:19.260 --> 00:15:21.246 In those patients that are narcoleptic,

NOTE Confidence: 0.6970775

00:15:21.250 --> 00:15:23.230 not not collect tix or really

NOTE Confidence: 0.6970775

00:15:23.230 --> 00:15:23.890 pathologically sleepy.

NOTE Confidence: 0.6970775

00:15:23.890 --> 00:15:25.210 Or 15 and above.

NOTE Confidence: 0.6970775

00:15:25.210 --> 00:15:28.372 We are not a good observer of when we

NOTE Confidence: 0.6970775

00:15:28.372 --> 00:15:30.948 have seizures and when we have states

NOTE Confidence: 0.6970775

00:15:31.029 --> 00:15:34.326 of partial awareness and when we're sleepy.

NOTE Confidence: 0.6970775

00:15:34.330 --> 00:15:35.812 8 is borderline, but anything less

NOTE Confidence: 0.6970775

00:15:35.812 --> 00:15:37.969 than 8 to 10 is considered normal.

NOTE Confidence: 0.6970775

00:15:37.970 --> 00:15:39.370 Getting a good night's sleep

NOTE Confidence: 0.6970775

00:15:39.370 --> 00:15:40.210 across the lifespan.

NOTE Confidence: 0.6970775

00:15:40.210 --> 00:15:42.712 The need varies from infancy to old age and

NOTE Confidence: 0.6970775

00:15:42.712 --> 00:15:45.248 for adults they can get by on less sleep,

NOTE Confidence: 0.6970775

00:15:45.250 --> 00:15:47.077 but they're not at their best cognitively

NOTE Confidence: 0.6970775

00:15:47.077 --> 00:15:48.888 unless you get the requisite amount,

NOTE Confidence: 0.6970775

00:15:48.890 --> 00:15:51.284 so it needs to be continuous and have normal

NOTE Confidence: 0.6970775

00:15:51.284 --> 00:15:53.087 architecture and should contain all elements,

NOTE Confidence: 0.6970775

00:15:53.090 --> 00:15:54.490 including REM and slow wave.

NOTE Confidence: 0.6970775

00:15:54.490 --> 00:15:56.180 Yet patients who come to

NOTE Confidence: 0.6970775

00:15:56.180 --> 00:15:58.230 the sleep lab we often see.

NOTE Confidence: 0.6970775

00:15:58.230 --> 00:15:59.714 Reduced percentages of some

NOTE Confidence: 0.6970775

00:15:59.714 --> 00:16:00.827 of these entities,

NOTE Confidence: 0.6970775

00:16:00.830 --> 00:16:03.170 especially if they're an SSRI's

NOTE Confidence: 0.6970775

00:16:03.170 --> 00:16:04.574 that suppress these.
NOTE Confidence: 0.6970775

00:16:04.580 --> 00:16:06.110 And.
NOTE Confidence: 0.6970775

00:16:06.110 --> 00:16:08.714 Some what is a pseudo science behind
NOTE Confidence: 0.6970775

00:16:08.714 --> 00:16:11.070 how significant that may or may not be?
NOTE Confidence: 0.6970775

00:16:11.070 --> 00:16:12.514 Why incremental knowledge is
NOTE Confidence: 0.6970775

00:16:12.514 --> 00:16:14.319 accumulated to why goodnight sleep
NOTE Confidence: 0.6970775

00:16:14.319 --> 00:16:16.378 is important across the lifespan?
NOTE Confidence: 0.6970775

00:16:16.380 --> 00:16:19.278 This is a very nice article from
NOTE Confidence: 0.6970775

00:16:19.278 --> 00:16:21.349 Max Herskowitz who I believe
NOTE Confidence: 0.6970775

00:16:21.349 --> 00:16:23.960 started out of Tufts before he had
NOTE Confidence: 0.6970775

00:16:23.960 --> 00:16:26.448 a super illustrious career.
NOTE Confidence: 0.6970775

00:16:26.450 --> 00:16:26.738 All,
NOTE Confidence: 0.6970775

00:16:26.738 --> 00:16:29.042 and this is a very nice article that
NOTE Confidence: 0.6970775

00:16:29.042 --> 00:16:30.800 shows that Wausau increases over
NOTE Confidence: 0.6970775

00:16:30.800 --> 00:16:33.210 time and there's a decrease in RAM,
NOTE Confidence: 0.6970775

00:16:33.210 --> 00:16:35.786 slow wave and an increase in stage one.

NOTE Confidence: 0.6970775

00:16:35.790 --> 00:16:38.688 We think that stage one in Wausau.

NOTE Confidence: 0.6970775

00:16:38.690 --> 00:16:40.755 At least according to the blog Wise

NOTE Confidence: 0.6970775

00:16:40.755 --> 00:16:43.751 and and and that School of Epidemiology

NOTE Confidence: 0.6970775

00:16:43.751 --> 00:16:45.284 represents sleep instability.

NOTE Confidence: 0.6970775

00:16:45.290 --> 00:16:47.606 And at the ASM last June,

NOTE Confidence: 0.6970775

00:16:47.610 --> 00:16:50.714 which is virtual, a lot of those lectures,

NOTE Confidence: 0.6970775

00:16:50.720 --> 00:16:52.612 particularly by Doctor Masci,

NOTE Confidence: 0.6970775

00:16:52.612 --> 00:16:54.504 indicated that some patients

NOTE Confidence: 0.6970775

00:16:54.504 --> 00:16:55.450 with pathological

NOTE Confidence: 0.7662612

00:16:55.515 --> 00:16:57.151 sleepiness from a hypersomnia

NOTE Confidence: 0.7662612

00:16:57.151 --> 00:16:59.088 might have more. Stage one,

NOTE Confidence: 0.7662612

00:16:59.088 --> 00:17:01.566 and Wausau sleep has to be organized

NOTE Confidence: 0.7662612

00:17:01.566 --> 00:17:04.007 so that we have a coordinated

NOTE Confidence: 0.7662612

00:17:04.007 --> 00:17:06.447 endocrine and body response so that

NOTE Confidence: 0.7662612

00:17:06.447 --> 00:17:08.876 we can be at our best physiologically

NOTE Confidence: 0.7662612

00:17:08.876 --> 00:17:12.310 from a number of different plans.
NOTE Confidence: 0.7662612

00:17:12.310 --> 00:17:14.375 This is Doctor Robert Mccarley
NOTE Confidence: 0.7662612

00:17:14.375 --> 00:17:16.440 had the privilege to know.
NOTE Confidence: 0.7662612

00:17:16.440 --> 00:17:18.260 He partially the adenosine
NOTE Confidence: 0.7662612

00:17:18.260 --> 00:17:21.543 hypothesis and he is one of the
NOTE Confidence: 0.7662612

00:17:21.543 --> 00:17:24.357 most cited individuals for for the.
NOTE Confidence: 0.7662612

00:17:24.360 --> 00:17:26.405 Findings in schizophrenia with the
NOTE Confidence: 0.7662612

00:17:26.405 --> 00:17:28.860 morphometry of the superior temporal gyrus.
NOTE Confidence: 0.7662612

00:17:28.860 --> 00:17:31.242 But he also discovered portions of
NOTE Confidence: 0.7662612

00:17:31.242 --> 00:17:33.770 the ram nucleus many decades ago,
NOTE Confidence: 0.7662612

00:17:33.770 --> 00:17:36.374 and he also observed that adenosine in
NOTE Confidence: 0.7662612

00:17:36.374 --> 00:17:38.368 the basil forebrain rose incrementally
NOTE Confidence: 0.7662612

00:17:38.368 --> 00:17:40.792 while awake and therefore was believed
NOTE Confidence: 0.7662612

00:17:40.792 --> 00:17:42.980 to be responsible to increasing
NOTE Confidence: 0.7662612

00:17:42.980 --> 00:17:45.160 levels of sleepiness after being
NOTE Confidence: 0.7662612

00:17:45.160 --> 00:17:47.267 awake and with higher concentrations,

NOTE Confidence: 0.7662612

00:17:47.267 --> 00:17:49.312 it may actually inhibit arousal

NOTE Confidence: 0.7662612

00:17:49.312 --> 00:17:50.130 cause sleepiness.

NOTE Confidence: 0.7662612

00:17:50.130 --> 00:17:53.310 Anna decreases during sleep in that.

NOTE Confidence: 0.7662612

00:17:53.310 --> 00:17:55.692 Off my coffee is a noncompetitive

NOTE Confidence: 0.7662612

00:17:55.692 --> 00:17:58.209 antagonist of adenosine at the receptor.

NOTE Confidence: 0.7662612

00:17:58.210 --> 00:18:00.658 The adenosine receptor biology is known

NOTE Confidence: 0.7662612

00:18:00.658 --> 00:18:04.023 as it interacts with producing and Dom

NOTE Confidence: 0.7662612

00:18:04.023 --> 00:18:06.239 endogenous antigen from prostaglandins.

NOTE Confidence: 0.7662612

00:18:06.240 --> 00:18:09.176 An adenosine is either stored in a release

NOTE Confidence: 0.7662612

00:18:09.176 --> 00:18:12.035 and start to be formed inside of cells.

NOTE Confidence: 0.7662612

00:18:12.040 --> 00:18:14.210 Or or possibly on the surface and

NOTE Confidence: 0.7662612

00:18:14.210 --> 00:18:16.138 and its proposed as a modulator,

NOTE Confidence: 0.7662612

00:18:16.140 --> 00:18:18.345 it may cause some days of dilate

NOTE Confidence: 0.7662612

00:18:18.345 --> 00:18:19.290 by basil dilation.

NOTE Confidence: 0.7662612

00:18:19.290 --> 00:18:21.310 The weakness of this theory, however.

NOTE Confidence: 0.7662612

00:18:21.310 --> 00:18:22.660 Although it's observed,
NOTE Confidence: 0.7662612

00:18:22.660 --> 00:18:25.815 you know there's no patient that we
NOTE Confidence: 0.7662612

00:18:25.815 --> 00:18:28.101 prescribe enough Red Bull and coffee
NOTE Confidence: 0.7662612

00:18:28.101 --> 00:18:30.909 to mitigate the effects of hypersomnia,
NOTE Confidence: 0.7662612

00:18:30.910 --> 00:18:33.406 and this molecule doesn't really interact
NOTE Confidence: 0.7662612

00:18:33.406 --> 00:18:36.160 with the known neurobiology of the circuitry,
NOTE Confidence: 0.7662612

00:18:36.160 --> 00:18:38.578 such as at the ereckson receptor,
NOTE Confidence: 0.7662612

00:18:38.580 --> 00:18:39.792 the heterodimers formation,
NOTE Confidence: 0.7662612

00:18:39.792 --> 00:18:40.600 the VLP,
NOTE Confidence: 0.7662612

00:18:40.600 --> 00:18:42.620 all which initiates sleep onset,
NOTE Confidence: 0.7662612

00:18:42.620 --> 00:18:44.236 and the other pathways.
NOTE Confidence: 0.7662612

00:18:44.236 --> 00:18:46.660 So it may be an epiphenomenon,
NOTE Confidence: 0.7662612

00:18:46.660 --> 00:18:50.228 but it hasn't really led to a major
NOTE Confidence: 0.7662612

00:18:50.228 --> 00:18:52.189 insider inroad into those.
NOTE Confidence: 0.7662612

00:18:52.190 --> 00:18:53.360 Neuronal connectivity pathways,
NOTE Confidence: 0.7662612

00:18:53.360 --> 00:18:55.700 but adenosine is on the left.

NOTE Confidence: 0.7662612

00:18:55.700 --> 00:18:58.430 Caffeine is on the right.

NOTE Confidence: 0.7662612

00:18:58.430 --> 00:19:01.930 These these articles written.

NOTE Confidence: 0.7662612

00:19:01.930 --> 00:19:07.670 About 20 plus years ago are or more are very,

NOTE Confidence: 0.7662612

00:19:07.670 --> 00:19:08.504 very interesting.

NOTE Confidence: 0.7662612

00:19:08.504 --> 00:19:11.006 So hypersomnia we know results when

NOTE Confidence: 0.7662612

00:19:11.006 --> 00:19:13.328 sleep at night is inefficient,

NOTE Confidence: 0.7662612

00:19:13.330 --> 00:19:14.305 fragmented or normal.

NOTE Confidence: 0.7662612

00:19:14.305 --> 00:19:15.605 Sleep architecture is disturbed

NOTE Confidence: 0.7662612

00:19:15.605 --> 00:19:17.234 at secondary or there's an

NOTE Confidence: 0.7662612

00:19:17.234 --> 00:19:18.430 intrinsic problem for this.

NOTE Confidence: 0.7662612

00:19:18.430 --> 00:19:20.670 And how do we evaluate this complaint?

NOTE Confidence: 0.7662612

00:19:20.670 --> 00:19:20.978 Well,

NOTE Confidence: 0.7662612

00:19:20.978 --> 00:19:23.442 I put this type of slide up because

NOTE Confidence: 0.7662612

00:19:23.442 --> 00:19:25.122 there's nothing more gratifying to

NOTE Confidence: 0.7662612

00:19:25.122 --> 00:19:27.759 a sleep Doctor Who sees a lot of

NOTE Confidence: 0.7662612

00:19:27.759 --> 00:19:29.595 OSA patients to see RAM rebound.
NOTE Confidence: 0.7662612

00:19:29.600 --> 00:19:31.448 So this was a patient who suddenly
NOTE Confidence: 0.7662612

00:19:31.448 --> 00:19:33.545 had a very organized process after he
NOTE Confidence: 0.7662612

00:19:33.545 --> 00:19:36.209 came in for a second night after a
NOTE Confidence: 0.7662612

00:19:36.209 --> 00:19:38.054 diagnostic sleep study or polysomnogram
NOTE Confidence: 0.7662612

00:19:38.054 --> 00:19:40.253 where there was a very good.
NOTE Confidence: 0.7662612

00:19:40.253 --> 00:19:42.780 REM, rebound and we all felt good.
NOTE Confidence: 0.7662612

00:19:42.780 --> 00:19:44.112 Wow, what a success.
NOTE Confidence: 0.7662612

00:19:44.112 --> 00:19:46.110 This patient had continuous sleep until
NOTE Confidence: 0.7662612

00:19:46.170 --> 00:19:48.663 the helipad landed and caused him to wake up.
NOTE Confidence: 0.7662612

00:19:48.670 --> 00:19:50.665 And then he went back to sleep
NOTE Confidence: 0.7662612

00:19:50.665 --> 00:19:52.080 and lo and behold,
NOTE Confidence: 0.7662612

00:19:52.080 --> 00:19:54.908 the patient was able to maintain sleep.
NOTE Confidence: 0.7662612

00:19:54.910 --> 00:19:57.297 But narcolepsy has a sleep wake instability.
NOTE Confidence: 0.7662612

00:19:57.300 --> 00:20:00.036 An ram may intrude into the waking state.
NOTE Confidence: 0.7662612

00:20:00.040 --> 00:20:02.731 Now this is what we see as the sort

NOTE Confidence: 0.7662612

00:20:02.731 --> 00:20:05.056 of gospel on the ASM where this

NOTE Confidence: 0.7662612

00:20:05.056 --> 00:20:07.977 is the MSL T where we are right

NOTE Confidence: 0.7662612

00:20:07.977 --> 00:20:10.641 now when I'm giving my lecture at

NOTE Confidence: 0.7662612

00:20:10.641 --> 00:20:12.687 two or three in the afternoon,

NOTE Confidence: 0.79262733

00:20:12.690 --> 00:20:15.490 we have the greatest tendency to be

NOTE Confidence: 0.79262733

00:20:15.490 --> 00:20:18.221 falling asleep on MSL T with the

NOTE Confidence: 0.79262733

00:20:18.221 --> 00:20:20.780 sleep homeostatic drive or the OR the.

NOTE Confidence: 0.79262733

00:20:20.780 --> 00:20:22.410 Homeostatic drive is at its

NOTE Confidence: 0.79262733

00:20:22.410 --> 00:20:24.558 highest with the lowest of the

NOTE Confidence: 0.79262733

00:20:24.558 --> 00:20:26.350 circadian alerting sender signal,

NOTE Confidence: 0.79262733

00:20:26.350 --> 00:20:28.498 so process and process C are

NOTE Confidence: 0.79262733

00:20:28.498 --> 00:20:30.430 the most fire furthest apart.

NOTE Confidence: 0.79262733

00:20:30.430 --> 00:20:32.644 It's interesting that with the understanding

NOTE Confidence: 0.79262733

00:20:32.644 --> 00:20:34.510 of how fragmented sleep isn't,

NOTE Confidence: 0.79262733

00:20:34.510 --> 00:20:36.390 how incontinent patients are of

NOTE Confidence: 0.79262733

00:20:36.390 --> 00:20:38.590 their rent peers during the day,
NOTE Confidence: 0.79262733

00:20:38.590 --> 00:20:41.174 that we really don't have a good diagram
NOTE Confidence: 0.79262733

00:20:41.174 --> 00:20:43.777 of this for the primary hypersomnia.
NOTE Confidence: 0.79262733

00:20:43.780 --> 00:20:46.377 So maybe we will in the future,
NOTE Confidence: 0.79262733

00:20:46.380 --> 00:20:48.948 and this is obviously someone that
NOTE Confidence: 0.79262733

00:20:48.948 --> 00:20:50.660 got there early evening.
NOTE Confidence: 0.79262733

00:20:50.660 --> 00:20:52.796 No, I'm ram slow wave sleep such as
NOTE Confidence: 0.79262733

00:20:52.796 --> 00:20:55.166 you see in fleet recovery and they
NOTE Confidence: 0.79262733

00:20:55.166 --> 00:20:57.611 got more or increasing periods of REM
NOTE Confidence: 0.79262733

00:20:57.611 --> 00:21:00.043 throughout the night as the night went on.
NOTE Confidence: 0.79262733

00:21:00.050 --> 00:21:02.546 But here's a patient on the bottom here.
NOTE Confidence: 0.79262733

00:21:02.550 --> 00:21:04.650 This hymn of what Naka Lefty looks
NOTE Confidence: 0.79262733

00:21:04.650 --> 00:21:07.220 like and I would add I got this
NOTE Confidence: 0.79262733

00:21:07.220 --> 00:21:08.496 online so it's blurry.
NOTE Confidence: 0.79262733

00:21:08.500 --> 00:21:10.355 I want to give credit words do
NOTE Confidence: 0.79262733

00:21:10.355 --> 00:21:12.603 but some of our patients they even

NOTE Confidence: 0.79262733

00:21:12.603 --> 00:21:14.685 have much more sleep onset REM's

NOTE Confidence: 0.79262733

00:21:14.751 --> 00:21:16.326 during the day than this.

NOTE Confidence: 0.79262733

00:21:16.330 --> 00:21:17.840 So narcolepsy hypersomnia is a

NOTE Confidence: 0.79262733

00:21:17.840 --> 00:21:20.080 disease that spans a 24 hour period.

NOTE Confidence: 0.79262733

00:21:20.080 --> 00:21:21.900 That fragment sleep and fragments

NOTE Confidence: 0.79262733

00:21:21.900 --> 00:21:23.356 wake in these patients.

NOTE Confidence: 0.79262733

00:21:23.360 --> 00:21:25.585 I have an unpredictable lifestyle

NOTE Confidence: 0.79262733

00:21:25.585 --> 00:21:26.920 where neurotransmitters planktonic

NOTE Confidence: 0.79262733

00:21:26.920 --> 00:21:29.473 roles that wax and wane and sleep

NOTE Confidence: 0.79262733

00:21:29.473 --> 00:21:31.078 and wake are totally destabilized,

NOTE Confidence: 0.79262733

00:21:31.080 --> 00:21:33.950 like a very dysfunctional loose

NOTE Confidence: 0.79262733

00:21:33.950 --> 00:21:36.820 dial on a dimmer switch.

NOTE Confidence: 0.79262733

00:21:36.820 --> 00:21:38.288 So major neurologic mechanisms

NOTE Confidence: 0.79262733

00:21:38.288 --> 00:21:39.756 promote wakefulness from the

NOTE Confidence: 0.79262733

00:21:39.756 --> 00:21:40.860 reticular activating system,

NOTE Confidence: 0.79262733

00:21:40.860 --> 00:21:42.428 with ascential choline glutamate,
NOTE Confidence: 0.79262733

00:21:42.428 --> 00:21:43.604 noradrenergic systems and
NOTE Confidence: 0.79262733

00:21:43.604 --> 00:21:45.259 rim is parallel to that,
NOTE Confidence: 0.79262733

00:21:45.260 --> 00:21:47.941 and I'll show you more of that
NOTE Confidence: 0.79262733

00:21:47.941 --> 00:21:49.930 as this lecture proceeds.
NOTE Confidence: 0.79262733

00:21:49.930 --> 00:21:54.898 And termination phase is not simply.
NOTE Confidence: 0.79262733

00:21:54.900 --> 00:21:58.076 A switch it's a dialing up of wakefulness
NOTE Confidence: 0.79262733

00:21:58.076 --> 00:22:01.579 and a dialing down of the sleepiness.
NOTE Confidence: 0.79262733

00:22:01.580 --> 00:22:03.458 So anything that fragments this process,
NOTE Confidence: 0.79262733

00:22:03.460 --> 00:22:04.088 such as.
NOTE Confidence: 0.79262733

00:22:04.088 --> 00:22:06.286 Here's a ramp period where you're paralyzed,
NOTE Confidence: 0.79262733

00:22:06.290 --> 00:22:08.488 and if you're on your back supine,
NOTE Confidence: 0.79262733

00:22:08.490 --> 00:22:10.086 you have an airway that's closed
NOTE Confidence: 0.79262733

00:22:10.086 --> 00:22:12.318 and you have an arousal 'cause you
NOTE Confidence: 0.79262733

00:22:12.318 --> 00:22:13.802 can't breathe these fragmentations
NOTE Confidence: 0.79262733

00:22:13.802 --> 00:22:16.145 of your sleep will lead to profound

NOTE Confidence: 0.79262733

00:22:16.145 --> 00:22:17.903 EDS during the day or excessive

NOTE Confidence: 0.79262733

00:22:17.910 --> 00:22:19.570 daytime sleepiness.

NOTE Confidence: 0.79262733

00:22:19.570 --> 00:22:22.584 As an EG I like to show a parallel

NOTE Confidence: 0.79262733

00:22:22.584 --> 00:22:24.931 between EG and sleep and the brain

NOTE Confidence: 0.79262733

00:22:24.931 --> 00:22:27.903 from time of life to the time of death

NOTE Confidence: 0.79262733

00:22:27.903 --> 00:22:30.388 is never offline on the upper left.

NOTE Confidence: 0.79262733

00:22:30.390 --> 00:22:33.086 This is wakefulness, where you have a post,

NOTE Confidence: 0.79262733

00:22:33.090 --> 00:22:35.002 your predominant alpha rhythm

NOTE Confidence: 0.79262733

00:22:35.002 --> 00:22:37.870 reaching 8 to 8 more Hertz.

NOTE Confidence: 0.79262733

00:22:37.870 --> 00:22:39.520 On the right is drowsiness.

NOTE Confidence: 0.79262733

00:22:39.520 --> 00:22:41.830 Is that the same isn't in Fenton

NOTE Confidence: 0.79262733

00:22:41.830 --> 00:22:43.810 Cefal Opathy, where there stay there,

NOTE Confidence: 0.79262733

00:22:43.810 --> 00:22:45.460 or fragmentation of the alpha.

NOTE Confidence: 0.79262733

00:22:45.460 --> 00:22:48.100 Sleep is by no means a passive process.

NOTE Confidence: 0.79262733

00:22:48.100 --> 00:22:50.086 Look at how active these posts

NOTE Confidence: 0.79262733

00:22:50.086 --> 00:22:51.730 are beginning of stage two.
NOTE Confidence: 0.79262733

00:22:51.730 --> 00:22:53.710 Stage two is very busy with
NOTE Confidence: 0.79262733

00:22:53.710 --> 00:22:55.030 spindles and K complexes.
NOTE Confidence: 0.79262733

00:22:55.030 --> 00:22:56.680 Stage 3 is not flat,
NOTE Confidence: 0.79262733

00:22:56.680 --> 00:22:58.642 but it's slow with this delta
NOTE Confidence: 0.79262733

00:22:58.642 --> 00:23:00.882 and then it becomes active again
NOTE Confidence: 0.79262733

00:23:00.882 --> 00:23:02.606 with these eye movements.
NOTE Confidence: 0.79262733

00:23:02.610 --> 00:23:04.758 And low voltage e.g. parameters not
NOTE Confidence: 0.79262733

00:23:04.758 --> 00:23:07.554 quite like wait but it is fast and
NOTE Confidence: 0.79262733

00:23:07.554 --> 00:23:09.498 it's mediated by almost the same.
NOTE Confidence: 0.79262733

00:23:09.500 --> 00:23:09.785 Neurotransmitters,
NOTE Confidence: 0.79262733

00:23:09.785 --> 00:23:11.780 but in a different location and nuclei
NOTE Confidence: 0.79262733

00:23:11.780 --> 00:23:14.370 in the brain, which we talk about.
NOTE Confidence: 0.79262733

00:23:14.370 --> 00:23:16.495 With encephalopathies or up foundation,
NOTE Confidence: 0.77301455

00:23:16.500 --> 00:23:18.112 the pathways are different.
NOTE Confidence: 0.77301455

00:23:18.112 --> 00:23:20.127 The classical awake or arousal

NOTE Confidence: 0.77301455

00:23:20.127 --> 00:23:21.897 system is involved in sleep,

NOTE Confidence: 0.77301455

00:23:21.900 --> 00:23:24.609 but it also involved in self allopathy.

NOTE Confidence: 0.77301455

00:23:24.610 --> 00:23:27.210 Is there is a impact of the thalamus

NOTE Confidence: 0.77301455

00:23:27.210 --> 00:23:29.167 where there is obtundation that

NOTE Confidence: 0.77301455

00:23:29.167 --> 00:23:31.232 occurs which disrupts that pathway

NOTE Confidence: 0.77301455

00:23:31.232 --> 00:23:34.157 and in the cases of metabolic ensup

NOTE Confidence: 0.77301455

00:23:34.157 --> 00:23:36.875 allopathy they may be triphasic waves.

NOTE Confidence: 0.77301455

00:23:36.875 --> 00:23:40.300 Furthermore, when there's this organ.

NOTE Confidence: 0.77301455

00:23:40.300 --> 00:23:42.532 Damage or there's Frank.

NOTE Confidence: 0.77301455

00:23:42.532 --> 00:23:44.206 Quarter to excitability.

NOTE Confidence: 0.77301455

00:23:44.210 --> 00:23:46.556 Some of these waves actually involve

NOTE Confidence: 0.77301455

00:23:46.556 --> 00:23:49.481 the hours for other source of the

NOTE Confidence: 0.77301455

00:23:49.481 --> 00:23:51.197 cortex that involve epilepsy,

NOTE Confidence: 0.77301455

00:23:51.200 --> 00:23:55.120 and we have a continuum from these long

NOTE Confidence: 0.77301455

00:23:55.120 --> 00:23:57.920 probability of ictal patterns too.

NOTE Confidence: 0.77301455

00:23:57.920 --> 00:23:59.236 Suppression versus versa question,
NOTE Confidence: 0.77301455

00:23:59.236 --> 00:24:01.570 which I'm not showing on this slide.
NOTE Confidence: 0.77301455

00:24:01.570 --> 00:24:02.898 These triphasic waves and
NOTE Confidence: 0.77301455

00:24:02.898 --> 00:24:03.894 then epileptiform discharges.
NOTE Confidence: 0.77301455

00:24:03.900 --> 00:24:06.510 But sleep is a completely
NOTE Confidence: 0.77301455

00:24:06.510 --> 00:24:07.554 different circuitry.
NOTE Confidence: 0.77301455

00:24:07.560 --> 00:24:08.884 Here are epileptiform discharges
NOTE Confidence: 0.77301455

00:24:08.884 --> 00:24:10.870 from her on the bottom panels.
NOTE Confidence: 0.77301455

00:24:10.870 --> 00:24:13.187 These are continuous here on the left.
NOTE Confidence: 0.77301455

00:24:13.190 --> 00:24:16.390 These are on one side on the right.
NOTE Confidence: 0.77301455

00:24:16.390 --> 00:24:19.574 The upper left is the a brain that
NOTE Confidence: 0.77301455

00:24:19.574 --> 00:24:21.831 has diffuse cortical damage and
NOTE Confidence: 0.77301455

00:24:21.831 --> 00:24:25.037 is flatline or brain dead and the
NOTE Confidence: 0.77301455

00:24:25.130 --> 00:24:28.245 upper right shows birth suppression
NOTE Confidence: 0.77301455

00:24:28.245 --> 00:24:31.360 that's induced by pharmaco therapies
NOTE Confidence: 0.77301455

00:24:31.360 --> 00:24:34.800 such as propofol or or.

NOTE Confidence: 0.77301455

00:24:34.800 --> 00:24:35.508 Other senators,

NOTE Confidence: 0.77301455

00:24:35.508 --> 00:24:37.986 but this is a very different circuitry,

NOTE Confidence: 0.77301455

00:24:37.990 --> 00:24:39.398 a very different look,

NOTE Confidence: 0.77301455

00:24:39.398 --> 00:24:40.454 very different pattern,

NOTE Confidence: 0.77301455

00:24:40.460 --> 00:24:42.693 and a very set of different pathways

NOTE Confidence: 0.77301455

00:24:42.693 --> 00:24:44.883 other than those that that involve

NOTE Confidence: 0.77301455

00:24:44.883 --> 00:24:46.838 sleeping wake as a epileptologist.

NOTE Confidence: 0.77301455

00:24:46.840 --> 00:24:47.761 I would digress.

NOTE Confidence: 0.77301455

00:24:47.761 --> 00:24:49.910 At this point a little bit to

NOTE Confidence: 0.77301455

00:24:49.986 --> 00:24:52.350 talk about epilepsy and sleep and

NOTE Confidence: 0.77301455

00:24:52.350 --> 00:24:54.270 patients with epilepsy or pwe.

NOTE Confidence: 0.77301455

00:24:54.270 --> 00:24:55.582 There's a high end,

NOTE Confidence: 0.77301455

00:24:55.582 --> 00:24:57.550 higher incidence of sleep disorders in

NOTE Confidence: 0.77301455

00:24:57.613 --> 00:25:00.688 this population, with 13% of patients.

NOTE Confidence: 0.77301455

00:25:00.688 --> 00:25:01.230 Also,

NOTE Confidence: 0.77301455

00:25:01.230 --> 00:25:03.470 having always say in the moderate to
NOTE Confidence: 0.77301455

00:25:03.470 --> 00:25:05.623 severe range and the hypoxemia and
NOTE Confidence: 0.77301455

00:25:05.623 --> 00:25:07.879 arousal that occurs in those patients,
NOTE Confidence: 0.77301455

00:25:07.880 --> 00:25:09.752 either from their epilepsy or and
NOTE Confidence: 0.77301455

00:25:09.752 --> 00:25:12.229 often their OSA may cause pseudo or
NOTE Confidence: 0.77301455

00:25:12.229 --> 00:25:14.179 sudden unexplained death in epilepsy.
NOTE Confidence: 0.77301455

00:25:14.180 --> 00:25:17.620 But OSA is a very highly treatable entity.
NOTE Confidence: 0.77301455

00:25:17.620 --> 00:25:20.588 Lack of sleep is one of the most
NOTE Confidence: 0.77301455

00:25:20.588 --> 00:25:22.590 important triggers of seizures with
NOTE Confidence: 0.77301455

00:25:22.590 --> 00:25:24.948 a third of patients in particular
NOTE Confidence: 0.77301455

00:25:24.948 --> 00:25:27.170 who may fly under the radar,
NOTE Confidence: 0.77301455

00:25:27.170 --> 00:25:29.844 and so you ask the question along
NOTE Confidence: 0.77301455

00:25:29.844 --> 00:25:31.858 with alcohol, stress medication,
NOTE Confidence: 0.77301455

00:25:31.858 --> 00:25:33.730 noncompliance, missed doses.
NOTE Confidence: 0.77301455

00:25:33.730 --> 00:25:34.633 Sleep fragmentation might
NOTE Confidence: 0.77301455

00:25:34.633 --> 00:25:35.837 actually decrease your TST,

NOTE Confidence: 0.77301455
00:25:35.840 --> 00:25:36.740 leading to seizures,
NOTE Confidence: 0.77301455
00:25:36.740 --> 00:25:37.640 total sleep time,
NOTE Confidence: 0.77301455
00:25:37.640 --> 00:25:40.237 and anything that can lead to the
NOTE Confidence: 0.77301455
00:25:40.237 --> 00:25:41.350 bus increase seizures.
NOTE Confidence: 0.77301455
00:25:41.350 --> 00:25:44.185 This is a little rectal discharge where.
NOTE Confidence: 0.77301455
00:25:44.190 --> 00:25:45.246 The sharp part.
NOTE Confidence: 0.77301455
00:25:45.246 --> 00:25:47.006 Anything that looks like it
NOTE Confidence: 0.77301455
00:25:47.006 --> 00:25:49.258 would hurt if you sat on it like
NOTE Confidence: 0.77301455
00:25:49.258 --> 00:25:50.970 a thumbtack is a sharp you.
NOTE Confidence: 0.77301455
00:25:50.970 --> 00:25:53.532 After going slow wave may actually be
NOTE Confidence: 0.77301455
00:25:53.532 --> 00:25:54.630 mostly hyperpolarization protective.
NOTE Confidence: 0.77301455
00:25:54.630 --> 00:25:56.715 But these are typical interictal
NOTE Confidence: 0.77301455
00:25:56.715 --> 00:25:59.182 discharges which are seen when the
NOTE Confidence: 0.77301455
00:25:59.182 --> 00:26:01.048 patient is not having a seizure
NOTE Confidence: 0.77301455
00:26:01.048 --> 00:26:02.450 and lack of sleep.
NOTE Confidence: 0.77301455

00:26:02.450 --> 00:26:04.050 Causes an increase of this.
NOTE Confidence: 0.77301455

00:26:04.050 --> 00:26:05.660 An interactive discharges are distributed
NOTE Confidence: 0.77301455

00:26:05.660 --> 00:26:07.570 differently in different stages of sleep.
NOTE Confidence: 0.77301455

00:26:07.570 --> 00:26:09.607 The highest rates are in these rolling
NOTE Confidence: 0.77301455

00:26:09.607 --> 00:26:11.728 delta waves which are highly synchronous.
NOTE Confidence: 0.77301455

00:26:11.730 --> 00:26:14.426 So impious traitor and stage in three and
NOTE Confidence: 0.77301455

00:26:14.426 --> 00:26:17.485 four much more in the stage two in stage one,
NOTE Confidence: 0.77301455

00:26:17.490 --> 00:26:19.296 it's very rare to have an
NOTE Confidence: 0.77301455

00:26:19.296 --> 00:26:20.500 interactive discharge in REM
NOTE Confidence: 0.77301455

00:26:20.560 --> 00:26:22.290 because of the hyper synchrony,
NOTE Confidence: 0.77301455

00:26:22.290 --> 00:26:25.216 but circadian effects may play a role.
NOTE Confidence: 0.77301455

00:26:25.220 --> 00:26:25.626 Anne.
NOTE Confidence: 0.77301455

00:26:25.626 --> 00:26:27.656 Less than 1% of seizures
NOTE Confidence: 0.77301455

00:26:27.656 --> 00:26:29.680 actually come out of RAM.
NOTE Confidence: 0.77301455

00:26:29.680 --> 00:26:31.260 The less synchronous the EG,
NOTE Confidence: 0.7533789

00:26:31.260 --> 00:26:33.953 such as when you're awake, are in REM.

NOTE Confidence: 0.7533789

00:26:33.953 --> 00:26:35.437 The less likely depolarization

NOTE Confidence: 0.7533789

00:26:35.437 --> 00:26:36.990 or seizures will occur.

NOTE Confidence: 0.7533789

00:26:36.990 --> 00:26:38.286 In temporal lobe epilepsy,

NOTE Confidence: 0.7533789

00:26:38.286 --> 00:26:39.582 there's a tendency for

NOTE Confidence: 0.7533789

00:26:39.582 --> 00:26:41.119 hours and then a seizure,

NOTE Confidence: 0.7533789

00:26:41.120 --> 00:26:43.213 and this is usually in the late

NOTE Confidence: 0.7533789

00:26:43.213 --> 00:26:44.939 afternoon with frontal lobe seizures.

NOTE Confidence: 0.7533789

00:26:44.940 --> 00:26:46.902 There are often brief events with

NOTE Confidence: 0.7533789

00:26:46.902 --> 00:26:48.759 tonic motor components out of sleep,

NOTE Confidence: 0.7533789

00:26:48.760 --> 00:26:50.656 with little to no postictal phase,

NOTE Confidence: 0.7533789

00:26:50.660 --> 00:26:52.310 and some syndromes are time locked

NOTE Confidence: 0.7533789

00:26:52.310 --> 00:26:54.100 somehow and we don't understand the

NOTE Confidence: 0.7533789

00:26:54.100 --> 00:26:55.700 neurobiology for the wait period

NOTE Confidence: 0.7533789

00:26:55.700 --> 00:26:57.660 such as juvenile myoclonic epilepsy,

NOTE Confidence: 0.7533789

00:26:57.660 --> 00:26:59.550 where there's a myoclonic jerk or

NOTE Confidence: 0.7533789

00:26:59.550 --> 00:27:01.663 series of falls in coordination in
NOTE Confidence: 0.7533789

00:27:01.663 --> 00:27:04.027 the morning with grand Mal epilepsy.
NOTE Confidence: 0.7533789

00:27:04.030 --> 00:27:05.590 Benign Epileptiform central temple
NOTE Confidence: 0.7533789

00:27:05.590 --> 00:27:07.150 central temporal epilepsy with
NOTE Confidence: 0.7533789

00:27:07.150 --> 00:27:08.998 spikes or rolandic seizures are
NOTE Confidence: 0.7533789

00:27:08.998 --> 00:27:10.688 typically seen in the morning,
NOTE Confidence: 0.7533789

00:27:10.690 --> 00:27:14.020 yet we have more rain periods in the morning,
NOTE Confidence: 0.7533789

00:27:14.020 --> 00:27:16.096 so that violates the principle in
NOTE Confidence: 0.7533789

00:27:16.096 --> 00:27:18.829 a way that that RAM is protective,
NOTE Confidence: 0.7533789

00:27:18.830 --> 00:27:21.420 but this may be an independent entity,
NOTE Confidence: 0.7533789

00:27:21.420 --> 00:27:22.104 Landau kleffner,
NOTE Confidence: 0.7533789

00:27:22.104 --> 00:27:24.498 which is one of the catastrophic seizure
NOTE Confidence: 0.7533789

00:27:24.498 --> 00:27:26.229 syndromes of childhood catastrophic,
NOTE Confidence: 0.7533789

00:27:26.230 --> 00:27:28.348 especially if you miss it because
NOTE Confidence: 0.7533789

00:27:28.348 --> 00:27:30.669 these brains are busy seizing away.
NOTE Confidence: 0.7533789

00:27:30.670 --> 00:27:32.202 You may have microcephaly,

NOTE Confidence: 0.7533789

00:27:32.202 --> 00:27:34.500 and when the brain is busy.

NOTE Confidence: 0.7533789

00:27:34.500 --> 00:27:35.824 Seizing particularly in posterior

NOTE Confidence: 0.7533789

00:27:35.824 --> 00:27:38.229 temporal area on the left with the

NOTE Confidence: 0.7533789

00:27:38.229 --> 00:27:39.677 language development areas are.

NOTE Confidence: 0.7533789

00:27:39.680 --> 00:27:41.490 And these patients have continuous

NOTE Confidence: 0.7533789

00:27:41.490 --> 00:27:43.300 spike and wave and sleep.

NOTE Confidence: 0.7533789

00:27:43.300 --> 00:27:46.336 These patients have profile language delays.

NOTE Confidence: 0.7533789

00:27:46.340 --> 00:27:48.300 But epilepsy patients commonly complain

NOTE Confidence: 0.7533789

00:27:48.300 --> 00:27:50.740 of EDS with the medication burden.

NOTE Confidence: 0.7533789

00:27:50.740 --> 00:27:53.540 Many of them are on rescue medications

NOTE Confidence: 0.7533789

00:27:53.540 --> 00:27:54.740 that are benzodiazepine's.

NOTE Confidence: 0.7533789

00:27:54.740 --> 00:27:56.744 This significant weight gain that can

NOTE Confidence: 0.7533789

00:27:56.744 --> 00:27:59.539 lead to OSA and confounding variables.

NOTE Confidence: 0.7533789

00:27:59.540 --> 00:28:01.946 Depression may also be a comorbid

NOTE Confidence: 0.7533789

00:28:01.946 --> 00:28:03.991 complication and changes the sleep

NOTE Confidence: 0.7533789

00:28:03.991 --> 00:28:06.205 architecture and REM density and so
NOTE Confidence: 0.7533789

00:28:06.205 --> 00:28:08.738 forth and other other other features.
NOTE Confidence: 0.7533789

00:28:08.740 --> 00:28:11.568 And after daytime seizures is a decrease
NOTE Confidence: 0.7533789

00:28:11.568 --> 00:28:14.018 in RIM increased in REM latency
NOTE Confidence: 0.7533789

00:28:14.018 --> 00:28:16.334 and more and one in fragmentation,
NOTE Confidence: 0.7533789

00:28:16.340 --> 00:28:17.744 probably law so.
NOTE Confidence: 0.7533789

00:28:17.744 --> 00:28:18.680 Epilepsy itself,
NOTE Confidence: 0.7533789

00:28:18.680 --> 00:28:21.560 even in the absence of Aedes and OSA,
NOTE Confidence: 0.7533789

00:28:21.560 --> 00:28:24.120 may cause sleep fragmentation so.
NOTE Confidence: 0.7533789

00:28:24.120 --> 00:28:25.176 Epilepsy might actually represent
NOTE Confidence: 0.7533789

00:28:25.176 --> 00:28:25.968 a primary hypersomnia,
NOTE Confidence: 0.7533789

00:28:25.970 --> 00:28:28.877 but the verdict is out and that's why I
NOTE Confidence: 0.7533789

00:28:28.877 --> 00:28:31.218 included at the beginning of the talk.
NOTE Confidence: 0.7533789

00:28:31.220 --> 00:28:33.544 This is a patient of ours that
NOTE Confidence: 0.7533789

00:28:33.544 --> 00:28:35.750 has a responsive neurostimulator,
NOTE Confidence: 0.7533789

00:28:35.750 --> 00:28:38.120 and these patients are so refractory

NOTE Confidence: 0.7533789
00:28:38.120 --> 00:28:40.637 that they are either failed surgery
NOTE Confidence: 0.7533789
00:28:40.637 --> 00:28:41.927 or they require.
NOTE Confidence: 0.82937264
00:28:43.980 --> 00:28:45.660 Italian of approach to their care,
NOTE Confidence: 0.82937264
00:28:45.660 --> 00:28:47.340 so these patients we do neurostimulation
NOTE Confidence: 0.82937264
00:28:47.340 --> 00:28:49.607 in any part of the pathway where the
NOTE Confidence: 0.82937264
00:28:49.607 --> 00:28:51.251 discharge is in the most robust,
NOTE Confidence: 0.82937264
00:28:51.260 --> 00:28:53.171 and this is a patient that not
NOTE Confidence: 0.82937264
00:28:53.171 --> 00:28:55.199 only has a cyclical pattern.
NOTE Confidence: 0.82937264
00:28:55.200 --> 00:28:57.348 Of the surrogate marker of irritability,
NOTE Confidence: 0.82937264
00:28:57.350 --> 00:28:58.487 these these devices.
NOTE Confidence: 0.82937264
00:28:58.487 --> 00:29:00.761 These many computers delineate in eracle
NOTE Confidence: 0.82937264
00:29:00.761 --> 00:29:02.718 discharges throughout the day and night.
NOTE Confidence: 0.82937264
00:29:02.720 --> 00:29:05.282 This patient has up to 3000 them
NOTE Confidence: 0.82937264
00:29:05.282 --> 00:29:07.728 through the through the day and night,
NOTE Confidence: 0.82937264
00:29:07.730 --> 00:29:10.236 and this patient can be noted to
NOTE Confidence: 0.82937264

00:29:10.236 --> 00:29:11.310 have electrographic seizures,
NOTE Confidence: 0.82937264

00:29:11.310 --> 00:29:13.458 but when we activate these devices,
NOTE Confidence: 0.82937264

00:29:13.460 --> 00:29:15.602 and this has become accepted in
NOTE Confidence: 0.82937264

00:29:15.602 --> 00:29:17.034 the literature, there isn't.
NOTE Confidence: 0.82937264

00:29:17.034 --> 00:29:19.533 It has been evolving literature on this.
NOTE Confidence: 0.82937264

00:29:19.540 --> 00:29:22.011 You change the distribution of when the
NOTE Confidence: 0.82937264

00:29:22.011 --> 00:29:23.494 interactive discharges and seizures
NOTE Confidence: 0.82937264

00:29:23.494 --> 00:29:25.708 and long episodes of those interactive
NOTE Confidence: 0.82937264

00:29:25.708 --> 00:29:27.779 discharges occur into the night period.
NOTE Confidence: 0.82937264

00:29:27.780 --> 00:29:29.588 So from 10:00 PM.
NOTE Confidence: 0.82937264

00:29:29.588 --> 00:29:30.944 To 5:00 AM.
NOTE Confidence: 0.82937264

00:29:30.950 --> 00:29:32.430 So this is relatively new.
NOTE Confidence: 0.82937264

00:29:32.430 --> 00:29:34.134 How this impacts sleep tiredness doesn't
NOTE Confidence: 0.82937264

00:29:34.134 --> 00:29:35.690 ameliorate the sleepiness of epilepsy.
NOTE Confidence: 0.82937264

00:29:35.690 --> 00:29:37.755 The verdict is yet to be found.
NOTE Confidence: 0.82937264

00:29:37.760 --> 00:29:39.580 We have about 13 or 14 these

NOTE Confidence: 0.82937264

00:29:39.580 --> 00:29:41.309 patients at our Medical Center,

NOTE Confidence: 0.82937264

00:29:41.310 --> 00:29:43.722 and most of them have converted to have their

NOTE Confidence: 0.82937264

00:29:43.722 --> 00:29:45.447 interactive discharges during the evening,

NOTE Confidence: 0.82937264

00:29:45.450 --> 00:29:47.226 which is convenient because if you

NOTE Confidence: 0.82937264

00:29:47.226 --> 00:29:49.627 have a seizure at night in your own

NOTE Confidence: 0.82937264

00:29:49.627 --> 00:29:51.367 bed rather than at the workplace,

NOTE Confidence: 0.82937264

00:29:51.370 --> 00:29:52.850 it may actually be beneficial.

NOTE Confidence: 0.82937264

00:29:52.850 --> 00:29:55.810 But is there a higher risk or not of SUDEP?

NOTE Confidence: 0.82937264

00:29:55.810 --> 00:29:57.418 But some of those studies are

NOTE Confidence: 0.82937264

00:29:57.418 --> 00:29:59.209 showing that these devices to improve

NOTE Confidence: 0.82937264

00:29:59.209 --> 00:30:00.549 student or stunned unexplained,

NOTE Confidence: 0.82937264

00:30:00.550 --> 00:30:02.470 definitely.

NOTE Confidence: 0.82937264

00:30:02.470 --> 00:30:04.966 I was very fortunate as I may have

NOTE Confidence: 0.82937264

00:30:04.966 --> 00:30:06.079 alluded to to Co.

NOTE Confidence: 0.82937264

00:30:06.080 --> 00:30:08.378 Author with my mentor Paul Gross

NOTE Confidence: 0.82937264

00:30:08.378 --> 00:30:10.759 and a chapter and the third.
NOTE Confidence: 0.82937264

00:30:10.760 --> 00:30:13.400 Nether Neurology Group and I'm going
NOTE Confidence: 0.82937264

00:30:13.400 --> 00:30:15.612 to give you neurotransmitter 101
NOTE Confidence: 0.82937264

00:30:15.612 --> 00:30:17.874 for the clinical sleep doctor here,
NOTE Confidence: 0.82937264

00:30:17.880 --> 00:30:19.995 so you'll have some understanding
NOTE Confidence: 0.82937264

00:30:19.995 --> 00:30:21.687 of the neurotransmitters involved
NOTE Confidence: 0.82937264

00:30:21.687 --> 00:30:23.749 in the primary master switch.
NOTE Confidence: 0.82937264

00:30:23.750 --> 00:30:24.992 If you will.
NOTE Confidence: 0.82937264

00:30:24.992 --> 00:30:28.360 Of sleep onset depends on on on VLP.
NOTE Confidence: 0.82937264

00:30:28.360 --> 00:30:30.802 Oh which I'll show in another
NOTE Confidence: 0.82937264

00:30:30.802 --> 00:30:33.516 slide in the which identifies get
NOTE Confidence: 0.82937264

00:30:33.516 --> 00:30:36.504 which which is social with GABA.
NOTE Confidence: 0.82937264

00:30:36.510 --> 00:30:38.006 And the posterior thalamus,
NOTE Confidence: 0.82937264

00:30:38.006 --> 00:30:40.940 which is closer to the reticular formation,
NOTE Confidence: 0.82937264

00:30:40.940 --> 00:30:42.960 is how I remember it.
NOTE Confidence: 0.82937264

00:30:42.960 --> 00:30:45.378 These are the pathways that promote

NOTE Confidence: 0.82937264

00:30:45.378 --> 00:30:46.990 wakefulness and the wakefulness,

NOTE Confidence: 0.82937264

00:30:46.990 --> 00:30:49.005 consciousness and REM are mainly

NOTE Confidence: 0.82937264

00:30:49.005 --> 00:30:50.617 assets you're calling dependent,

NOTE Confidence: 0.82937264

00:30:50.620 --> 00:30:52.625 but there are contributions from

NOTE Confidence: 0.82937264

00:30:52.625 --> 00:30:56.039 norepinephrine, glutamate and serotonin.

NOTE Confidence: 0.82937264

00:30:56.040 --> 00:30:58.815 The basil forebrain involved with

NOTE Confidence: 0.82937264

00:30:58.815 --> 00:31:01.035 acetal choline poster hypothalamus

NOTE Confidence: 0.82937264

00:31:01.035 --> 00:31:03.220 system in orexin hypocretin.

NOTE Confidence: 0.82937264

00:31:03.220 --> 00:31:04.756 It prints the brainstem,

NOTE Confidence: 0.82937264

00:31:04.756 --> 00:31:06.294 the roster lens, norepinephrine,

NOTE Confidence: 0.82937264

00:31:06.294 --> 00:31:07.446 dopamine, glutamate, serotonin,

NOTE Confidence: 0.82937264

00:31:07.446 --> 00:31:08.598 both widespread projections

NOTE Confidence: 0.82937264

00:31:08.598 --> 00:31:09.750 through the brain,

NOTE Confidence: 0.82937264

00:31:09.750 --> 00:31:11.286 including the forebrain cortex

NOTE Confidence: 0.82937264

00:31:11.286 --> 00:31:13.384 reticular activating system, non REM.

NOTE Confidence: 0.82937264

00:31:13.384 --> 00:31:14.328 Involves Gallup,
NOTE Confidence: 0.82937264

00:31:14.328 --> 00:31:15.715 GABA, and the VLP.
NOTE Confidence: 0.82937264

00:31:15.715 --> 00:31:17.240 Oh and the answer hypothalamus,
NOTE Confidence: 0.82937264

00:31:17.240 --> 00:31:19.580 basal forebrain and there are reciprocal
NOTE Confidence: 0.82937264

00:31:19.580 --> 00:31:22.132 innovations and REM has at least four
NOTE Confidence: 0.82937264

00:31:22.132 --> 00:31:24.302 parts which are new to another slide.
NOTE Confidence: 0.82937264

00:31:24.310 --> 00:31:27.256 So sleepiness away from this relatively
NOTE Confidence: 0.82937264

00:31:27.256 --> 00:31:29.220 controlled bitonic influences of
NOTE Confidence: 0.82937264

00:31:29.288 --> 00:31:31.468 these circuits that are dynamic.
NOTE Confidence: 0.82937264

00:31:31.470 --> 00:31:34.398 Throughout the day and night periods.
NOTE Confidence: 0.82937264

00:31:34.400 --> 00:31:34.753 Pearls,
NOTE Confidence: 0.82937264

00:31:34.753 --> 00:31:36.165 fan economy encephalitis lesion
NOTE Confidence: 0.82937264

00:31:36.165 --> 00:31:38.510 at the junction of the midbrain,
NOTE Confidence: 0.82937264

00:31:38.510 --> 00:31:40.664 which is looks like a Mickey
NOTE Confidence: 0.82937264

00:31:40.664 --> 00:31:42.681 Mouse sign and the diencephalon
NOTE Confidence: 0.82937264

00:31:42.681 --> 00:31:45.166 which is the the thalamus.

NOTE Confidence: 0.82937264

00:31:45.170 --> 00:31:49.658 And legions of that.

NOTE Confidence: 0.82937264

00:31:49.660 --> 00:31:52.420 See the VLP oh is very interior car.

NOTE Confidence: 0.82937264

00:31:52.420 --> 00:31:55.480 That's the master switch as I think of it as

NOTE Confidence: 0.7331184

00:31:55.557 --> 00:31:57.519 sleep onset a lesion there is

NOTE Confidence: 0.7331184

00:31:57.519 --> 00:31:59.670 going to cause an unbalanced.

NOTE Confidence: 0.75146556

00:32:02.230 --> 00:32:04.370 Operation of the wake pathways

NOTE Confidence: 0.75146556

00:32:04.370 --> 00:32:06.510 which are posterior so involved,

NOTE Confidence: 0.75146556

00:32:06.510 --> 00:32:07.364 conomo encephalitis,

NOTE Confidence: 0.75146556

00:32:07.364 --> 00:32:09.926 a lesion of the anterior region,

NOTE Confidence: 0.75146556

00:32:09.930 --> 00:32:11.226 would cause insomnia,

NOTE Confidence: 0.75146556

00:32:11.226 --> 00:32:13.386 whereas lesions of the posterior

NOTE Confidence: 0.75146556

00:32:13.386 --> 00:32:15.500 hypothalamus which these these promote,

NOTE Confidence: 0.75146556

00:32:15.500 --> 00:32:17.516 wakefulness allow the sleepy

NOTE Confidence: 0.75146556

00:32:17.516 --> 00:32:20.036 pathways to to take over.

NOTE Confidence: 0.75146556

00:32:20.040 --> 00:32:21.517 So these are the neural switches that

NOTE Confidence: 0.75146556

00:32:21.517 --> 00:32:23.129 are that are shut off or turned on,
NOTE Confidence: 0.75146556

00:32:23.130 --> 00:32:24.565 but it's not like a master switch,
NOTE Confidence: 0.75146556

00:32:24.570 --> 00:32:26.210 although I put one here.
NOTE Confidence: 0.75146556

00:32:26.210 --> 00:32:27.858 It's more like cliffs.
NOTE Confidence: 0.75146556

00:32:27.858 --> 00:32:30.330 Papers work where there is a
NOTE Confidence: 0.75146556

00:32:30.411 --> 00:32:32.711 a tendency for these pathways
NOTE Confidence: 0.75146556

00:32:32.711 --> 00:32:35.443 to either be wake promoting or
NOTE Confidence: 0.75146556

00:32:35.443 --> 00:32:37.525 sleep promoting and then I put
NOTE Confidence: 0.75146556

00:32:37.525 --> 00:32:40.098 in a very simple cartoon that I
NOTE Confidence: 0.75146556

00:32:40.098 --> 00:32:42.390 took from a drug package insert
NOTE Confidence: 0.75146556

00:32:42.465 --> 00:32:44.337 or another package insert.
NOTE Confidence: 0.75146556

00:32:44.340 --> 00:32:45.988 But about a website.
NOTE Confidence: 0.7833902

00:32:48.320 --> 00:32:51.500 But simplifies this even further.
NOTE Confidence: 0.7833902

00:32:51.500 --> 00:32:52.817 Histamine promotes wakefulness
NOTE Confidence: 0.7833902

00:32:52.817 --> 00:32:54.573 because histamine neurons activate
NOTE Confidence: 0.7833902

00:32:54.573 --> 00:32:56.330 the cortical subcortical neurons,

NOTE Confidence: 0.7833902

00:32:56.330 --> 00:32:58.520 including a wake promoting neurons

NOTE Confidence: 0.7833902

00:32:58.520 --> 00:33:00.272 outside of the hypothalamus.

NOTE Confidence: 0.7833902

00:33:00.280 --> 00:33:02.908 But it does something quite different.

NOTE Confidence: 0.7833902

00:33:02.910 --> 00:33:05.712 It modulates and stabilizes the tendency

NOTE Confidence: 0.7833902

00:33:05.712 --> 00:33:08.619 for the wake circuitry to take over.

NOTE Confidence: 0.7833902

00:33:08.620 --> 00:33:11.588 The predominant background of.

NOTE Confidence: 0.7833902

00:33:11.590 --> 00:33:16.388 Of of of. Flow if you will.

NOTE Confidence: 0.7833902

00:33:16.388 --> 00:33:19.665 I don't know what word to use a of

NOTE Confidence: 0.7833902

00:33:19.665 --> 00:33:21.945 the activity of the awake pathway.

NOTE Confidence: 0.7833902

00:33:21.950 --> 00:33:23.138 So, histamine neurons inhibit

NOTE Confidence: 0.7833902

00:33:23.138 --> 00:33:25.330 the RAM in the non REM sleep,

NOTE Confidence: 0.7833902

00:33:25.330 --> 00:33:27.226 promoting neurons and prevent

NOTE Confidence: 0.7833902

00:33:27.226 --> 00:33:30.070 REM intrusion at the wrong time.

NOTE Confidence: 0.7833902

00:33:30.070 --> 00:33:32.674 And these are the sleep promoting pathways.

NOTE Confidence: 0.7833902

00:33:32.680 --> 00:33:35.333 So this work really allows us to

NOTE Confidence: 0.7833902

00:33:35.333 --> 00:33:38.770 think of sleep more as a dial with a
NOTE Confidence: 0.7833902

00:33:38.770 --> 00:33:41.628 continuum where it's not a binary on off.
NOTE Confidence: 0.7833902

00:33:41.630 --> 00:33:44.042 There's a tonic continue of awake
NOTE Confidence: 0.7833902

00:33:44.042 --> 00:33:46.077 and sleep neurobiology based on
NOTE Confidence: 0.7833902

00:33:46.077 --> 00:33:48.219 the circuitry by these very elegant
NOTE Confidence: 0.7833902

00:33:48.219 --> 00:33:50.588 diagrams which I use with this team.
NOTE Confidence: 0.7833902

00:33:50.590 --> 00:33:51.763 From these researchers,
NOTE Confidence: 0.7833902

00:33:51.763 --> 00:33:54.690 the ram nucleus contains a somewhat of a.
NOTE Confidence: 0.7833902

00:33:54.690 --> 00:33:57.294 It's like a brain within a brain.
NOTE Confidence: 0.7833902

00:33:57.300 --> 00:33:59.230 There are four predominant glue
NOTE Confidence: 0.7833902

00:33:59.230 --> 00:34:01.160 groups of neurons in this.
NOTE Confidence: 0.7833902

00:34:01.160 --> 00:34:03.990 Core we sub cerulea's nucleus
NOTE Confidence: 0.7833902

00:34:03.990 --> 00:34:07.240 with is the glutamate ram on.
NOTE Confidence: 0.7833902

00:34:07.240 --> 00:34:08.900 Circuitry which causes muscle
NOTE Confidence: 0.7833902

00:34:08.900 --> 00:34:10.560 paralysis and cortical activation.
NOTE Confidence: 0.7833902

00:34:10.560 --> 00:34:13.890 So you're paralyzed, but someone awake.

NOTE Confidence: 0.7833902

00:34:13.890 --> 00:34:15.610 The sub cerulea's nucleus

NOTE Confidence: 0.7833902

00:34:15.610 --> 00:34:17.760 projects to the lateral medulla,

NOTE Confidence: 0.7833902

00:34:17.760 --> 00:34:19.924 releasing, releasing the GABA.

NOTE Confidence: 0.7833902

00:34:19.924 --> 00:34:23.780 But it's the this this activation of

NOTE Confidence: 0.7833902

00:34:23.780 --> 00:34:26.894 that pathway that causes the descending.

NOTE Confidence: 0.7833902

00:34:26.900 --> 00:34:28.796 Inhibitory neurotransmitter glycine

NOTE Confidence: 0.7833902

00:34:28.796 --> 00:34:31.956 onto the motor neuron pathways.

NOTE Confidence: 0.7833902

00:34:31.960 --> 00:34:34.612 Where people are paralyzed by the

NOTE Confidence: 0.7833902

00:34:34.612 --> 00:34:36.866 reticulospinal tract and the ram

NOTE Confidence: 0.7833902

00:34:36.866 --> 00:34:39.715 timing is mediated by GABA in the

NOTE Confidence: 0.7833902

00:34:39.715 --> 00:34:41.599 periaqueductal Gray in the dorsal.

NOTE Confidence: 0.7833902

00:34:41.600 --> 00:34:44.580 Para gigantis cellular reticular nucleus.

NOTE Confidence: 0.7833902

00:34:44.580 --> 00:34:46.233 In these regions,

NOTE Confidence: 0.7833902

00:34:46.233 --> 00:34:49.539 and so the breakdown is that

NOTE Confidence: 0.7833902

00:34:49.539 --> 00:34:51.160 narcolepsy cataplexy.

NOTE Confidence: 0.7833902

00:34:51.160 --> 00:34:54.124 Is a inappropriate muscle
NOTE Confidence: 0.7833902

00:34:54.124 --> 00:34:57.829 paralysis with the xrem on.
NOTE Confidence: 0.7833902

00:34:57.830 --> 00:34:59.800 Centers activated and REM behavioral
NOTE Confidence: 0.7833902

00:34:59.800 --> 00:35:01.770 disorders when they are failed
NOTE Confidence: 0.7833902

00:35:01.836 --> 00:35:03.780 to inhibit that pathway at night.
NOTE Confidence: 0.7833902

00:35:03.780 --> 00:35:05.690 Leading 2.
NOTE Confidence: 0.7833902

00:35:05.690 --> 00:35:08.012 Patients acting out their dreams now
NOTE Confidence: 0.7833902

00:35:08.012 --> 00:35:10.650 disease that involves these accumulations of,
NOTE Confidence: 0.7833902

00:35:10.650 --> 00:35:11.474 for example,
NOTE Confidence: 0.7833902

00:35:11.474 --> 00:35:12.710 synucleinopathies and pathology,
NOTE Confidence: 0.7833902

00:35:12.710 --> 00:35:16.014 such as in the BRAC stages of Parkinson's.
NOTE Confidence: 0.7833902

00:35:16.020 --> 00:35:18.512 They're sort of infiltrate all this and
NOTE Confidence: 0.7833902

00:35:18.512 --> 00:35:20.970 caused the REM behavioral disorder,
NOTE Confidence: 0.7833902

00:35:20.970 --> 00:35:21.918 we think,
NOTE Confidence: 0.7833902

00:35:21.918 --> 00:35:25.710 but that's beyond the scope of this talk.
NOTE Confidence: 0.7833902

00:35:25.710 --> 00:35:29.125 Alzheimer's disease is thought to

NOTE Confidence: 0.7833902

00:35:29.125 --> 00:35:31.174 be ameliorated by.

NOTE Confidence: 0.7833902

00:35:31.180 --> 00:35:32.290 Increasing.

NOTE Confidence: 0.82964194

00:35:34.540 --> 00:35:39.188 Sleep continuity an in particularly a small

NOTE Confidence: 0.82964194

00:35:39.188 --> 00:35:43.669 study involving drug suvorexant showed that.

NOTE Confidence: 0.82964194

00:35:43.670 --> 00:35:46.295 That the tower in the pathological proteins

NOTE Confidence: 0.82964194

00:35:46.295 --> 00:35:48.204 in Alzheimer's disease is accumulated

NOTE Confidence: 0.82964194

00:35:48.204 --> 00:35:50.376 less when there was sleep promotion.

NOTE Confidence: 0.82964194

00:35:50.380 --> 00:35:52.456 I don't believe there's any neurobiology

NOTE Confidence: 0.82964194

00:35:52.456 --> 00:35:54.315 indicated these patients with primary

NOTE Confidence: 0.82964194

00:35:54.315 --> 00:35:55.979 hypersomnia have less Alzheimer's,

NOTE Confidence: 0.82964194

00:35:55.980 --> 00:35:58.584 and I'm not indicating that's the case.

NOTE Confidence: 0.82964194

00:35:58.590 --> 00:36:01.668 I'm just merely raising the question.

NOTE Confidence: 0.82964194

00:36:01.670 --> 00:36:04.654 So cataplexy, we think occurs when those rim

NOTE Confidence: 0.82964194

00:36:04.654 --> 00:36:06.770 centers activating this muscle paralysis,

NOTE Confidence: 0.82964194

00:36:06.770 --> 00:36:08.720 and there's evidence that cataplexy

NOTE Confidence: 0.82964194

00:36:08.720 --> 00:36:10.670 is instituted from an emotional
NOTE Confidence: 0.82964194

00:36:10.729 --> 00:36:12.649 stimulus from the right amygdala,
NOTE Confidence: 0.82964194

00:36:12.650 --> 00:36:14.605 in particularly that acts on
NOTE Confidence: 0.82964194

00:36:14.605 --> 00:36:16.169 the sub cerulea's nucleus,
NOTE Confidence: 0.82964194

00:36:16.170 --> 00:36:18.970 and causes that paralysis.
NOTE Confidence: 0.82964194

00:36:18.970 --> 00:36:21.805 So we wake promoting agents and the
NOTE Confidence: 0.82964194

00:36:21.805 --> 00:36:24.205 sleep promoting age is the newer
NOTE Confidence: 0.82964194

00:36:24.205 --> 00:36:26.413 one which will get too involved.
NOTE Confidence: 0.82964194

00:36:26.420 --> 00:36:27.521 These other neurotransmitters,
NOTE Confidence: 0.82964194

00:36:27.521 --> 00:36:29.723 the H3 receptors have effect on
NOTE Confidence: 0.82964194

00:36:29.723 --> 00:36:31.119 excessive daytime sleepiness,
NOTE Confidence: 0.82964194

00:36:31.120 --> 00:36:33.466 particularly some of the newer agents.
NOTE Confidence: 0.82964194

00:36:33.470 --> 00:36:36.377 The one newer agent that I know of that's
NOTE Confidence: 0.82964194

00:36:36.377 --> 00:36:39.534 approved it causes an increase in the
NOTE Confidence: 0.82964194

00:36:39.534 --> 00:36:40.914 presynaptic histamine availability,
NOTE Confidence: 0.82964194

00:36:40.920 --> 00:36:43.790 causing you to be have more neurotransmitter

NOTE Confidence: 0.82964194

00:36:43.790 --> 00:36:46.020 transmitters and keep you awake more.

NOTE Confidence: 0.82135816

00:36:48.680 --> 00:36:51.570 So. This sleep fragmentation, though,

NOTE Confidence: 0.82135816

00:36:51.570 --> 00:36:54.237 is not unique to narcoleptics and and

NOTE Confidence: 0.82135816

00:36:54.237 --> 00:36:56.609 patients with primary sleep instability.

NOTE Confidence: 0.82135816

00:36:56.610 --> 00:37:00.124 An elderly person also may have a

NOTE Confidence: 0.82135816

00:37:00.124 --> 00:37:03.552 similar hypnogram to some some of our

NOTE Confidence: 0.82135816

00:37:03.552 --> 00:37:06.940 medical residents that are up at night.

NOTE Confidence: 0.82135816

00:37:06.940 --> 00:37:10.486 I'm call sleep will look like.

NOTE Confidence: 0.82135816

00:37:10.490 --> 00:37:12.884 Like this, we often don't do a

NOTE Confidence: 0.82135816

00:37:12.884 --> 00:37:15.699 daytime MSL T in our in our cohorts.

NOTE Confidence: 0.82135816

00:37:15.700 --> 00:37:17.776 Of these, these types of individuals,

NOTE Confidence: 0.82135816

00:37:17.780 --> 00:37:19.856 but we wonder if sleep intrusion

NOTE Confidence: 0.82135816

00:37:19.856 --> 00:37:20.894 would also occur.

NOTE Confidence: 0.82135816

00:37:20.900 --> 00:37:22.868 So our testing is never diagnostic

NOTE Confidence: 0.82135816

00:37:22.868 --> 00:37:25.408 unless you get a hypo cretin level,

NOTE Confidence: 0.82135816

00:37:25.410 --> 00:37:27.792 or you can actually visualize what
NOTE Confidence: 0.82135816

00:37:27.792 --> 00:37:30.459 part of the sleep Wake pathway.
NOTE Confidence: 0.82135816

00:37:30.460 --> 00:37:34.709 Anatomically. Is involved, so we use MSLT.
NOTE Confidence: 0.82135816

00:37:34.710 --> 00:37:37.070 The multiple sleep latency test
NOTE Confidence: 0.82135816

00:37:37.070 --> 00:37:39.932 versus the MSLMLMWT as a surrogate
NOTE Confidence: 0.82135816

00:37:39.932 --> 00:37:42.823 marker as to how sleepy they are
NOTE Confidence: 0.82135816

00:37:42.823 --> 00:37:45.973 and we accept this based on these
NOTE Confidence: 0.82135816

00:37:45.973 --> 00:37:49.278 papers from around 20 plus years ago.
NOTE Confidence: 0.82135816

00:37:49.278 --> 00:37:53.550 This is from the ASM website Twenty 05.
NOTE Confidence: 0.82135816

00:37:53.550 --> 00:37:53.991 Anne.
NOTE Confidence: 0.82135816

00:37:53.991 --> 00:37:56.196 These patients with narcolepsy have
NOTE Confidence: 0.82135816

00:37:56.196 --> 00:37:59.324 to have a mean sleep latency of
NOTE Confidence: 0.82135816

00:37:59.324 --> 00:38:01.892 less than eight with two sirens.
NOTE Confidence: 0.82135816

00:38:01.900 --> 00:38:02.668 Anything else?
NOTE Confidence: 0.82135816

00:38:02.668 --> 00:38:03.820 Once I went,
NOTE Confidence: 0.82135816

00:38:03.820 --> 00:38:06.430 no sound is idiopathic hypersomnia.

NOTE Confidence: 0.82135816

00:38:06.430 --> 00:38:08.173 And if you don't have a decreased

NOTE Confidence: 0.82135816

00:38:08.173 --> 00:38:09.638 mean sleep latency in that level,

NOTE Confidence: 0.82135816

00:38:09.640 --> 00:38:11.225 it's debatable whether or not

NOTE Confidence: 0.82135816

00:38:11.225 --> 00:38:12.176 you actually have.

NOTE Confidence: 0.82135816

00:38:12.180 --> 00:38:14.390 Pathological sleepiness to that degree,

NOTE Confidence: 0.82135816

00:38:14.390 --> 00:38:17.334 but MSL TMWT is a marker of degrees

NOTE Confidence: 0.82135816

00:38:17.334 --> 00:38:19.720 of sleepiness that's supportive or

NOTE Confidence: 0.82135816

00:38:19.720 --> 00:38:22.345 maybe supportive under the right

NOTE Confidence: 0.82135816

00:38:22.345 --> 00:38:25.280 circumstances of particularly narcolepsy.

NOTE Confidence: 0.82135816

00:38:25.280 --> 00:38:28.104 We are not able to assess ourselves when

NOTE Confidence: 0.82135816

00:38:28.104 --> 00:38:31.590 we are having excessive daytime sleepiness,

NOTE Confidence: 0.82135816

00:38:31.590 --> 00:38:34.296 we cannot access our assess ourselves.

NOTE Confidence: 0.82135816

00:38:34.300 --> 00:38:38.370 Sometimes when we have seizures.

NOTE Confidence: 0.82135816

00:38:38.370 --> 00:38:42.087 In particularly as we give a talk to our

NOTE Confidence: 0.82135816

00:38:42.087 --> 00:38:44.896 residents when they come in on safety,

NOTE Confidence: 0.82135816

00:38:44.900 --> 00:38:47.348 there are more errors and residents
NOTE Confidence: 0.82135816

00:38:47.348 --> 00:38:48.980 may almost reprobate Epworth
NOTE Confidence: 0.82135816

00:38:49.044 --> 00:38:51.019 score in the narcoleptic range,
NOTE Confidence: 0.82135816

00:38:51.020 --> 00:38:53.869 but even brief naps may promote alertness,
NOTE Confidence: 0.82135816

00:38:53.870 --> 00:38:56.580 but nothing substitute for sleep.
NOTE Confidence: 0.82135816

00:38:56.580 --> 00:38:59.286 Other than sleep.
NOTE Confidence: 0.82135816

00:38:59.286 --> 00:39:01.532 Idiopathic hypersomnia is
NOTE Confidence: 0.82135816

00:39:01.532 --> 00:39:04.184 an entity which we end up.
NOTE Confidence: 0.82135816

00:39:04.190 --> 00:39:05.960 Seeing a lot of these patients
NOTE Confidence: 0.82135816

00:39:05.960 --> 00:39:08.989 who come to us who do not meet the
NOTE Confidence: 0.82135816

00:39:08.989 --> 00:39:10.764 criteria for narcolepsy on testing
NOTE Confidence: 0.82135816

00:39:10.831 --> 00:39:12.996 and it's a management problem
NOTE Confidence: 0.82135816

00:39:12.996 --> 00:39:14.728 because pharmacotherapy is often
NOTE Confidence: 0.82135816

00:39:14.728 --> 00:39:16.634 off label for these individuals,
NOTE Confidence: 0.82135816

00:39:16.634 --> 00:39:18.098 or confined to PROVIGIL.
NOTE Confidence: 0.82135816

00:39:18.100 --> 00:39:20.090 NUVIGIL which the society ASM

NOTE Confidence: 0.82135816

00:39:20.090 --> 00:39:21.682 practice standards indicate may

NOTE Confidence: 0.82135816

00:39:21.682 --> 00:39:23.828 be options for those patients.

NOTE Confidence: 0.82135816

00:39:23.830 --> 00:39:25.434 But type one narcolepsy.

NOTE Confidence: 0.82135816

00:39:25.434 --> 00:39:27.439 There's there's all these features,

NOTE Confidence: 0.82135816

00:39:27.440 --> 00:39:29.846 with the exception of sleep drunkenness,

NOTE Confidence: 0.82135816

00:39:29.850 --> 00:39:31.450 which is very prominent.

NOTE Confidence: 0.82135816

00:39:31.450 --> 00:39:32.250 Idiopathic hypersomnia.

NOTE Confidence: 0.82135816

00:39:32.250 --> 00:39:34.260 There's no cataplexy in narcolepsy,

NOTE Confidence: 0.82135816

00:39:34.260 --> 00:39:37.050 two or IH.

NOTE Confidence: 0.82135816

00:39:37.050 --> 00:39:39.647 An naps a very refreshing and narcolepsy

NOTE Confidence: 0.82135816

00:39:39.647 --> 00:39:43.020 one sometimes not into, but rarely if at all.

NOTE Confidence: 0.82135816

00:39:43.020 --> 00:39:44.796 In IH.

NOTE Confidence: 0.82135816

00:39:44.796 --> 00:39:47.460 So these are.

NOTE Confidence: 0.82135816

00:39:47.460 --> 00:39:48.300 Some of the.

NOTE Confidence: 0.7164064

00:39:51.880 --> 00:39:54.886 The Coop so Coco Curring percentages

NOTE Confidence: 0.7164064

00:39:54.886 --> 00:39:56.890 of cataplexy in narcolepsy.
NOTE Confidence: 0.7164064

00:39:56.890 --> 00:39:59.830 Up to 50% triggered by emotionally
NOTE Confidence: 0.7164064

00:39:59.830 --> 00:40:02.382 triggered things in sleep paralysis
NOTE Confidence: 0.7164064

00:40:02.382 --> 00:40:06.273 occurs in about 40-80% of these patients,
NOTE Confidence: 0.7164064

00:40:06.273 --> 00:40:08.757 along with the hypnompic
NOTE Confidence: 0.7164064

00:40:08.757 --> 00:40:10.090 hallucinations. The.
NOTE Confidence: 0.77883375

00:40:12.540 --> 00:40:14.874 Pathologic mechanism is thought to be the
NOTE Confidence: 0.77883375

00:40:14.874 --> 00:40:16.649 deficiency of the hypocretin mechanism
NOTE Confidence: 0.77883375

00:40:16.649 --> 00:40:19.055 and signaling caused by selective loss
NOTE Confidence: 0.77883375

00:40:19.055 --> 00:40:21.306 of hypocretin producing neurons in the
NOTE Confidence: 0.77883375

00:40:21.306 --> 00:40:23.274 hypothalamus and it may be autoimmune.
NOTE Confidence: 0.77883375

00:40:23.280 --> 00:40:25.860 There's a clinical trial for those
NOTE Confidence: 0.77883375

00:40:25.860 --> 00:40:28.240 that have post traumatic type of.
NOTE Confidence: 0.77883375

00:40:28.240 --> 00:40:28.866 I've narcolepsy.
NOTE Confidence: 0.77883375

00:40:28.866 --> 00:40:31.057 I tried to publish a case years
NOTE Confidence: 0.77883375

00:40:31.057 --> 00:40:33.068 ago and was rejected summarily

NOTE Confidence: 0.77883375

00:40:33.068 --> 00:40:34.696 by many different channels.

NOTE Confidence: 0.77883375

00:40:34.700 --> 00:40:37.300 'cause it was like an evidence it's good

NOTE Confidence: 0.77883375

00:40:37.300 --> 00:40:40.449 to see that that constant may be emerging,

NOTE Confidence: 0.77883375

00:40:40.450 --> 00:40:42.778 but genetic factors which

NOTE Confidence: 0.77883375

00:40:42.778 --> 00:40:45.106 involved the QB one.

NOTE Confidence: 0.77883375

00:40:45.110 --> 00:40:48.398 Star 0602 are involved in the header dimer

NOTE Confidence: 0.77883375

00:40:48.398 --> 00:40:51.619 which may be dysfunctional along with

NOTE Confidence: 0.77883375

00:40:51.619 --> 00:40:53.931 environmental factors that contributed

NOTE Confidence: 0.77883375

00:40:53.931 --> 00:40:57.698 to the development occurrence of these.

NOTE Confidence: 0.77883375

00:40:57.700 --> 00:41:01.970 Semiologie, zven T1 and T2.

NOTE Confidence: 0.77883375

00:41:01.970 --> 00:41:04.675 This I took from the

NOTE Confidence: 0.77883375

00:41:04.675 --> 00:41:06.839 Internet from an article.

NOTE Confidence: 0.77883375

00:41:06.840 --> 00:41:08.820 Showing that the selective

NOTE Confidence: 0.77883375

00:41:08.820 --> 00:41:10.800 loss of hypocretin erection.

NOTE Confidence: 0.77883375

00:41:10.800 --> 00:41:13.495 In these areas around the third ventricle.

NOTE Confidence: 0.77883375

00:41:13.500 --> 00:41:17.320 A comic. From the.
NOTE Confidence: 0.77883375

00:41:17.320 --> 00:41:20.779 Tetrad of narcolepsy.
NOTE Confidence: 0.77883375

00:41:20.780 --> 00:41:23.625 The DSM Diagnostic Statistical Manual
NOTE Confidence: 0.77883375

00:41:23.625 --> 00:41:27.610 5 allows you to define narcolepsy.
NOTE Confidence: 0.77883375

00:41:27.610 --> 00:41:30.664 Cataplexy, as long as his recurrent
NOTE Confidence: 0.77883375

00:41:30.664 --> 00:41:33.479 episodes of irrepressible need to sleep.
NOTE Confidence: 0.77883375

00:41:33.480 --> 00:41:35.215 Occurring at least three times
NOTE Confidence: 0.77883375

00:41:35.215 --> 00:41:36.950 a week over three months,
NOTE Confidence: 0.77883375

00:41:36.950 --> 00:41:40.064 but there needs to be one of these entities,
NOTE Confidence: 0.77883375

00:41:40.070 --> 00:41:41.114 such as cataplexy,
NOTE Confidence: 0.77883375

00:41:41.114 --> 00:41:41.810 hypocretin deficiency,
NOTE Confidence: 0.77883375

00:41:41.810 --> 00:41:43.853 and a positive.
NOTE Confidence: 0.77883375

00:41:43.853 --> 00:41:47.939 Quite diagnostic on label and SLT.
NOTE Confidence: 0.77883375

00:41:47.940 --> 00:41:49.725 I been sleep rating RAM latency in
NOTE Confidence: 0.77883375

00:41:49.725 --> 00:41:51.909 less than 15 minutes increase seating.
NOTE Confidence: 0.77883375

00:41:51.910 --> 00:41:53.626 Polysomnogram is also helpful.

NOTE Confidence: 0.77883375

00:41:53.626 --> 00:41:55.771 There are many decision making

NOTE Confidence: 0.77883375

00:41:55.771 --> 00:41:57.284 algorithms that are in the

NOTE Confidence: 0.77883375

00:41:57.284 --> 00:41:59.120 literature on what to do if you.

NOTE Confidence: 0.77883375

00:41:59.120 --> 00:42:01.364 Have a patient that doesn't quite

NOTE Confidence: 0.77883375

00:42:01.364 --> 00:42:03.580 satisfy that MSL T criteria.

NOTE Confidence: 0.77883375

00:42:03.580 --> 00:42:03.989 Well,

NOTE Confidence: 0.77883375

00:42:03.989 --> 00:42:06.443 some of these slides come from

NOTE Confidence: 0.77883375

00:42:06.443 --> 00:42:08.556 studies of residual sleepiness that

NOTE Confidence: 0.77883375

00:42:08.556 --> 00:42:10.968 may be based on industry where

NOTE Confidence: 0.77883375

00:42:10.968 --> 00:42:13.786 a market was created to give a

NOTE Confidence: 0.77883375

00:42:13.786 --> 00:42:15.721 drug after patients are treated

NOTE Confidence: 0.77883375

00:42:15.730 --> 00:42:18.160 with CPAP for treatment of OSA.

NOTE Confidence: 0.77883375

00:42:18.160 --> 00:42:20.840 But the neurobiology which is.

NOTE Confidence: 0.77883375

00:42:20.840 --> 00:42:23.688 Runs comment all these types of studies that.

NOTE Confidence: 0.77883375

00:42:23.690 --> 00:42:26.804 There is deep Gray and white

NOTE Confidence: 0.77883375

00:42:26.804 --> 00:42:29.360 matter problems changes in DWI,
NOTE Confidence: 0.77883375

00:42:29.360 --> 00:42:31.930 DTI diffusion, weighted not diffusion,
NOTE Confidence: 0.77883375

00:42:31.930 --> 00:42:34.744 tensor imaging as well as loss
NOTE Confidence: 0.77883375

00:42:34.744 --> 00:42:37.600 of of bold signal coupling.
NOTE Confidence: 0.77883375

00:42:37.600 --> 00:42:41.040 In many of these.
NOTE Confidence: 0.77883375

00:42:41.040 --> 00:42:44.085 Areas where I showed you slides about
NOTE Confidence: 0.77883375

00:42:44.085 --> 00:42:47.088 typically in the brainstem RAM areas,
NOTE Confidence: 0.77883375

00:42:47.090 --> 00:42:48.485 reticular activating systems
NOTE Confidence: 0.77883375

00:42:48.485 --> 00:42:49.880 and their projections,
NOTE Confidence: 0.77883375

00:42:49.880 --> 00:42:52.200 so the extrapolation is involved,
NOTE Confidence: 0.77883375

00:42:52.200 --> 00:42:54.064 that there is degeneration,
NOTE Confidence: 0.77883375

00:42:54.064 --> 00:42:54.530 arousal,
NOTE Confidence: 0.77883375

00:42:54.530 --> 00:42:55.075 neurons,
NOTE Confidence: 0.77883375

00:42:55.075 --> 00:42:57.255 and chronic sleep disruption
NOTE Confidence: 0.77883375

00:42:57.255 --> 00:42:59.435 for these residual patients
NOTE Confidence: 0.77883375

00:42:59.435 --> 00:43:02.089 with residual sleep apnea as a.

NOTE Confidence: 0.77883375

00:43:02.090 --> 00:43:04.762 As a as a form of verifying their

NOTE Confidence: 0.77883375

00:43:04.762 --> 00:43:07.719 complaint and looking for a treatment for it,

NOTE Confidence: 0.77883375

00:43:07.720 --> 00:43:11.896 and you can find these all over the Internet.

NOTE Confidence: 0.77883375

00:43:11.900 --> 00:43:14.350 There is a form of idiopathic hypersomnia.

NOTE Confidence: 0.78540814

00:43:16.890 --> 00:43:18.822 That has long sleep time and

NOTE Confidence: 0.78540814

00:43:18.822 --> 00:43:20.110 particularly long sleep time.

NOTE Confidence: 0.78540814

00:43:20.110 --> 00:43:21.720 It's weekly associated with evening

NOTE Confidence: 0.78540814

00:43:21.720 --> 00:43:23.976 chronotypes and young age, and it's not

NOTE Confidence: 0.78540814

00:43:23.976 --> 00:43:25.908 adequately diagnosed using the Ms Lt.

NOTE Confidence: 0.78540814

00:43:25.910 --> 00:43:28.510 Perhaps because it's time drunk.

NOTE Confidence: 0.78540814

00:43:28.510 --> 00:43:31.642 But we need to analyze these

NOTE Confidence: 0.78540814

00:43:31.642 --> 00:43:33.092 patients further. Unfortunately,

NOTE Confidence: 0.78540814

00:43:33.092 --> 00:43:35.906 this is the list of FDA approved,

NOTE Confidence: 0.78540814

00:43:35.910 --> 00:43:37.514 approved, indicated drugs and

NOTE Confidence: 0.78540814

00:43:37.514 --> 00:43:39.118 therapies for idiopathic hypersomnia.

NOTE Confidence: 0.78540814

00:43:39.120 --> 00:43:41.526 You see him there aren't any.
NOTE Confidence: 0.78540814

00:43:41.530 --> 00:43:44.140 It's very frustrating.
NOTE Confidence: 0.78540814

00:43:44.140 --> 00:43:46.190 Uhm? If you go on the.
NOTE Confidence: 0.7949511

00:43:48.400 --> 00:43:51.388 Internet you can find all the new drugs that
NOTE Confidence: 0.7949511

00:43:51.388 --> 00:43:54.499 are approved and the older drugs are there.
NOTE Confidence: 0.7949511

00:43:54.500 --> 00:43:56.936 There's only only sodium oxybate is
NOTE Confidence: 0.7949511

00:43:56.936 --> 00:43:59.670 approved as an anti cataplex tick.
NOTE Confidence: 0.7949511

00:43:59.670 --> 00:44:04.146 Uhm? In idiopathic hypersomnia,
NOTE Confidence: 0.7949511

00:44:04.146 --> 00:44:07.314 the symptoms are quite.
NOTE Confidence: 0.7949511

00:44:07.320 --> 00:44:08.852 Disabling these are hypersomnia
NOTE Confidence: 0.7949511

00:44:08.852 --> 00:44:11.158 complaints at their worst, brain fog,
NOTE Confidence: 0.7949511

00:44:11.158 --> 00:44:13.846 poor memory you need for multiple alarms,
NOTE Confidence: 0.7949511

00:44:13.850 --> 00:44:15.382 intentional naps and non
NOTE Confidence: 0.7949511

00:44:15.382 --> 00:44:17.297 refreshing with daily launch sleep.
NOTE Confidence: 0.7949511

00:44:17.300 --> 00:44:19.700 In many of these patients
NOTE Confidence: 0.7949511

00:44:19.700 --> 00:44:22.100 that have long sleep time.

NOTE Confidence: 0.7949511

00:44:22.100 --> 00:44:26.699 And comparing. Uhm?

NOTE Confidence: 0.7949511

00:44:26.700 --> 00:44:28.188 Longer sleep time too.

NOTE Confidence: 0.7949511

00:44:28.188 --> 00:44:30.868 Those without long sleep time you can

NOTE Confidence: 0.7949511

00:44:30.868 --> 00:44:33.472 see that the long sleep time patients

NOTE Confidence: 0.7949511

00:44:33.472 --> 00:44:35.115 have fireworks pathology subjectively

NOTE Confidence: 0.7949511

00:44:35.115 --> 00:44:38.411 and none of these are in the diagnostic

NOTE Confidence: 0.7949511

00:44:38.420 --> 00:44:41.456 criteria for making a diagnosis hypersomnia.

NOTE Confidence: 0.7949511

00:44:41.460 --> 00:44:43.370 Uhm?

NOTE Confidence: 0.7949511

00:44:43.370 --> 00:44:46.790 These are the current.

NOTE Confidence: 0.7949511

00:44:46.790 --> 00:44:49.605 Trials available in studies that

NOTE Confidence: 0.7949511

00:44:49.605 --> 00:44:52.420 are on the hypersomnia.org website.

NOTE Confidence: 0.7949511

00:44:52.420 --> 00:44:54.838 And there are some new studies

NOTE Confidence: 0.7949511

00:44:54.838 --> 00:44:57.405 looking at Tak 925 which is

NOTE Confidence: 0.7949511

00:44:57.405 --> 00:44:59.580 an erection Type 2 receptor.

NOTE Confidence: 0.7949511

00:44:59.580 --> 00:45:03.857 Agonist in patients with narcolepsy Type 1.

NOTE Confidence: 0.7949511

00:45:03.860 --> 00:45:06.340 There was, there was.
NOTE Confidence: 0.7949511

00:45:06.340 --> 00:45:08.110 A study with Modafinil for
NOTE Confidence: 0.7949511

00:45:08.110 --> 00:45:08.818 idiopathic hypersomnia,
NOTE Confidence: 0.7949511

00:45:08.820 --> 00:45:10.944 which seems to improve it but
NOTE Confidence: 0.7949511

00:45:10.944 --> 00:45:12.360 doesn't mitigate safety risks.
NOTE Confidence: 0.8017105

00:45:15.140 --> 00:45:16.964 There are some studies looking there's
NOTE Confidence: 0.8017105

00:45:16.964 --> 00:45:19.039 a study looking at sodium oxybate.
NOTE Confidence: 0.8017105

00:45:19.040 --> 00:45:20.198 Pretty pathic hypersomnia
NOTE Confidence: 0.8017105

00:45:20.198 --> 00:45:21.742 compared to patients narcolepsy
NOTE Confidence: 0.8017105

00:45:21.742 --> 00:45:23.649 which may have some benefit.
NOTE Confidence: 0.8017105

00:45:23.650 --> 00:45:26.530 All this is off label. Not advocating.
NOTE Confidence: 0.8017105

00:45:26.530 --> 00:45:28.450 I'm just describing clarithromycin.
NOTE Confidence: 0.8017105

00:45:28.450 --> 00:45:29.938 May provide some benefit.
NOTE Confidence: 0.8017105

00:45:29.938 --> 00:45:31.426 It was a trial.
NOTE Confidence: 0.8017105

00:45:31.430 --> 00:45:35.240 There's a trial of stimulation.
NOTE Confidence: 0.8017105

00:45:35.240 --> 00:45:37.544 Which I believe was shut down to the meeting.

NOTE Confidence: 0.8017105

00:45:37.550 --> 00:45:38.894 Lack of meeting primary

NOTE Confidence: 0.8017105

00:45:38.894 --> 00:45:40.238 endpoints and or funding.

NOTE Confidence: 0.8017105

00:45:40.240 --> 00:45:41.364 Levothyroxine and idiopathic hypersomnia,

NOTE Confidence: 0.8017105

00:45:41.364 --> 00:45:42.769 with long sleep time may

NOTE Confidence: 0.8017105

00:45:42.769 --> 00:45:43.910 be somewhat beneficial,

NOTE Confidence: 0.8017105

00:45:43.910 --> 00:45:46.358 but I don't think these are our fabricated,

NOTE Confidence: 0.8017105

00:45:46.360 --> 00:45:48.510 but they are mentioned in

NOTE Confidence: 0.8017105

00:45:48.510 --> 00:45:49.800 an evolving literature.

NOTE Confidence: 0.8017105

00:45:49.800 --> 00:45:51.570 I put up the practice parameters

NOTE Confidence: 0.8017105

00:45:51.570 --> 00:45:53.183 for the treatment of narcolepsy

NOTE Confidence: 0.8017105

00:45:53.183 --> 00:45:55.048 and hypersomnia is from our

NOTE Confidence: 0.8017105

00:45:55.048 --> 00:45:56.877 twenty 07 morgenthaler paper and

NOTE Confidence: 0.8017105

00:45:56.877 --> 00:45:58.545 these are just the high points.

NOTE Confidence: 0.8017105

00:45:58.550 --> 00:46:00.488 There's drugs on there that aren't

NOTE Confidence: 0.8017105

00:46:00.488 --> 00:46:02.748 even available, such as root answering,

NOTE Confidence: 0.8017105

00:46:02.748 --> 00:46:05.160 which I believe was only used
NOTE Confidence: 0.8017105

00:46:05.238 --> 00:46:06.678 as a research drug.
NOTE Confidence: 0.8017105

00:46:06.680 --> 00:46:09.443 But we're left with all the older drugs here.
NOTE Confidence: 0.8017105

00:46:09.450 --> 00:46:11.606 The newer ones are not here yet.
NOTE Confidence: 0.8017105

00:46:11.610 --> 00:46:13.640 Perhaps in the updated practice
NOTE Confidence: 0.8017105

00:46:13.640 --> 00:46:15.264 parameters they will be.
NOTE Confidence: 0.8017105

00:46:15.270 --> 00:46:18.822 A need for peer reviewed literature
NOTE Confidence: 0.8017105

00:46:18.822 --> 00:46:20.598 involving special populations.
NOTE Confidence: 0.8017105

00:46:20.600 --> 00:46:21.566 Is it knowledge?
NOTE Confidence: 0.8017105

00:46:21.566 --> 00:46:23.820 And in this slide from that era,
NOTE Confidence: 0.8017105

00:46:23.820 --> 00:46:25.108 sodium oxybate for examples,
NOTE Confidence: 0.8017105

00:46:25.108 --> 00:46:27.040 categories categorized as a Schedule B.
NOTE Confidence: 0.8017105

00:46:27.040 --> 00:46:28.328 Right now it's it's.
NOTE Confidence: 0.8017105

00:46:28.328 --> 00:46:30.260 It's thought to be cause harm,
NOTE Confidence: 0.8017105

00:46:30.260 --> 00:46:33.480 but doesn't have a definite I believe.
NOTE Confidence: 0.8017105

00:46:33.480 --> 00:46:34.546 And then.

NOTE Confidence: 0.8017105
00:46:34.546 --> 00:46:36.678 Thinking of the new.
NOTE Confidence: 0.8017105
00:46:36.680 --> 00:46:39.650 Drugs that are out there to send versus soul,
NOTE Confidence: 0.8017105
00:46:39.650 --> 00:46:41.890 solar and fettle which are.
NOTE Confidence: 0.8017105
00:46:41.890 --> 00:46:43.816 Wake promoting agents.
NOTE Confidence: 0.8017105
00:46:43.816 --> 00:46:47.668 One being a H3 receptor antagonist.
NOTE Confidence: 0.8017105
00:46:47.670 --> 00:46:51.168 Soul reaffirm federal.
NOTE Confidence: 0.8017105
00:46:51.170 --> 00:46:52.802 Can cause cutey changes,
NOTE Confidence: 0.8017105
00:46:52.802 --> 00:46:53.210 insomnia,
NOTE Confidence: 0.8017105
00:46:53.210 --> 00:46:54.418 nausea, anxiety.
NOTE Confidence: 0.8017105
00:46:54.418 --> 00:46:57.438 It's going to just metabolise
NOTE Confidence: 0.8017105
00:46:57.438 --> 00:46:59.250 oral contraceptives and
NOTE Confidence: 0.8017105
00:46:59.339 --> 00:47:01.669 anticoagulants potentially.
NOTE Confidence: 0.8017105
00:47:01.670 --> 00:47:04.025 Limited in hepatic and renal
NOTE Confidence: 0.8017105
00:47:04.025 --> 00:47:05.909 conditions and the half-life.
NOTE Confidence: 0.8017105
00:47:05.910 --> 00:47:08.955 Or or maybe up to 20 hours.
NOTE Confidence: 0.8017105

00:47:08.960 --> 00:47:11.036 This one is not a controlled.
NOTE Confidence: 0.8017105

00:47:11.040 --> 00:47:13.696 The Mrs Patel assigned on the left on
NOTE Confidence: 0.8017105

00:47:13.696 --> 00:47:16.199 the right so knows these are scheduled
NOTE Confidence: 0.8017105

00:47:16.199 --> 00:47:19.100 4 which is a dopamine norepinephrine.
NOTE Confidence: 0.8017105

00:47:19.100 --> 00:47:21.326 Meaning DNR I which has reduced
NOTE Confidence: 0.8017105

00:47:21.326 --> 00:47:23.230 or no interaction with ocps.
NOTE Confidence: 0.8017105

00:47:23.230 --> 00:47:25.105 It's also has the indication
NOTE Confidence: 0.8017105

00:47:25.105 --> 00:47:26.980 for residual sleepiness and OSA.
NOTE Confidence: 0.8017105

00:47:26.980 --> 00:47:29.980 If you've had it more than a month,
NOTE Confidence: 0.8017105

00:47:29.980 --> 00:47:33.459 it's half life is about 7 hours.
NOTE Confidence: 0.8017105

00:47:33.460 --> 00:47:36.116 So how do we evaluate our initial case?
NOTE Confidence: 0.8017105

00:47:36.120 --> 00:47:38.022 We do a careful history of
NOTE Confidence: 0.8017105

00:47:38.022 --> 00:47:39.707 physical looking for all the
NOTE Confidence: 0.8017105

00:47:39.707 --> 00:47:41.789 secondary causes that we can treat.
NOTE Confidence: 0.8017105

00:47:41.790 --> 00:47:44.782 We want to make sure that there aren't
NOTE Confidence: 0.8017105

00:47:44.782 --> 00:47:46.566 any environmental or other causes

NOTE Confidence: 0.8017105

00:47:46.566 --> 00:47:49.256 we want to do a supportive proof of

NOTE Confidence: 0.8017105

00:47:49.256 --> 00:47:51.888 pathology through an MSL team ornament WT.

NOTE Confidence: 0.8017105

00:47:51.890 --> 00:47:54.014 We want to make sure we

NOTE Confidence: 0.8017105

00:47:54.014 --> 00:47:55.076 inventory the environment.

NOTE Confidence: 0.8017105

00:47:55.080 --> 00:47:58.260 The behavioral aspects of the case.

NOTE Confidence: 0.8017105

00:47:58.260 --> 00:48:00.645 Do it as much supportive testing if we can.

NOTE Confidence: 0.8017105

00:48:00.650 --> 00:48:02.818 In the past we had a problem getting

NOTE Confidence: 0.8017105

00:48:02.818 --> 00:48:04.377 the hypocretin levels in the CSF,

NOTE Confidence: 0.8017105

00:48:04.380 --> 00:48:05.484 so I'm calling about.

NOTE Confidence: 0.8017105

00:48:05.484 --> 00:48:08.097 I don't want to say about 8 to 10 years

NOTE Confidence: 0.8017105

00:48:08.097 --> 00:48:10.499 of not being able to get a CSF hypocretin.

NOTE Confidence: 0.8017105

00:48:10.500 --> 00:48:12.004 Apparently it's now available

NOTE Confidence: 0.8017105

00:48:12.004 --> 00:48:13.508 at the male clinic.

NOTE Confidence: 0.8017105

00:48:13.510 --> 00:48:15.706 We want to treat the excessive

NOTE Confidence: 0.8017105

00:48:15.706 --> 00:48:17.170 daytime sleepiness complaint in

NOTE Confidence: 0.8017105

00:48:17.230 --> 00:48:19.118 these patients and particularly.
NOTE Confidence: 0.8017105

00:48:19.120 --> 00:48:21.696 As much of the athletes symptoms as possible,
NOTE Confidence: 0.8017105

00:48:21.700 --> 00:48:23.305 we schedule naps to give
NOTE Confidence: 0.8017105

00:48:23.305 --> 00:48:24.268 them refreshing apps,
NOTE Confidence: 0.8017105

00:48:24.270 --> 00:48:27.510 especially if they have not collected Type 1.
NOTE Confidence: 0.79400045

00:48:27.510 --> 00:48:28.858 We give them stimulants,
NOTE Confidence: 0.79400045

00:48:28.858 --> 00:48:30.880 we give them tricyclics and SSR
NOTE Confidence: 0.79400045

00:48:30.940 --> 00:48:33.070 eyes to inhibit the rim nucleus
NOTE Confidence: 0.79400045

00:48:33.070 --> 00:48:34.851 type of descending pathways onto
NOTE Confidence: 0.79400045

00:48:34.851 --> 00:48:36.951 the motor tracts and we treat any
NOTE Confidence: 0.79400045

00:48:36.951 --> 00:48:38.924 disorder in the evening or otherwise
NOTE Confidence: 0.79400045

00:48:38.924 --> 00:48:40.970 that fragment sleep that can lead
NOTE Confidence: 0.79400045

00:48:41.035 --> 00:48:42.919 to EDS that can trigger attacks.
NOTE Confidence: 0.79400045

00:48:42.920 --> 00:48:45.167 'cause these patients are ready at the
NOTE Confidence: 0.79400045

00:48:45.167 --> 00:48:48.314 get go to have rim or sleeping continents
NOTE Confidence: 0.79400045

00:48:48.314 --> 00:48:51.030 in an inappropriate time during the day.

NOTE Confidence: 0.79400045

00:48:51.030 --> 00:48:53.649 So with our initial case are 22 year old

NOTE Confidence: 0.79400045

00:48:53.649 --> 00:48:56.457 we excluded other causes of sleepiness.

NOTE Confidence: 0.79400045

00:48:56.460 --> 00:48:58.064 We. Finding normal polysomnogram

NOTE Confidence: 0.79400045

00:48:58.064 --> 00:49:00.953 we found a very diagnostic MSL T

NOTE Confidence: 0.79400045

00:49:00.953 --> 00:49:03.023 with sorum's and sleep incontinence

NOTE Confidence: 0.79400045

00:49:03.023 --> 00:49:05.128 REM incontinence during the day

NOTE Confidence: 0.79400045

00:49:05.128 --> 00:49:07.420 and we treated with wake promoting

NOTE Confidence: 0.79400045

00:49:07.420 --> 00:49:09.048 agents Modafinil than armodafinil,

NOTE Confidence: 0.79400045

00:49:09.048 --> 00:49:12.394 which is a slightly longer half life.

NOTE Confidence: 0.79400045

00:49:12.400 --> 00:49:14.275 And the patients to contain

NOTE Confidence: 0.79400045

00:49:14.275 --> 00:49:15.400 complained of cataplexy,

NOTE Confidence: 0.79400045

00:49:15.400 --> 00:49:17.650 which may often not be recognized.

NOTE Confidence: 0.79400045

00:49:17.650 --> 00:49:19.900 These patients also are somewhat reclusive.

NOTE Confidence: 0.79400045

00:49:19.900 --> 00:49:21.780 They're afraid of social interaction,

NOTE Confidence: 0.79400045

00:49:21.780 --> 00:49:24.573 and there also have an adverse aerial

NOTE Confidence: 0.79400045

00:49:24.573 --> 00:49:27.066 relationship with many of their doctors

NOTE Confidence: 0.79400045

00:49:27.066 --> 00:49:29.508 because they asked basically for them.

NOTE Confidence: 0.79400045

00:49:29.510 --> 00:49:30.238 From them,

NOTE Confidence: 0.79400045

00:49:30.238 --> 00:49:32.058 these controlled substances which leads

NOTE Confidence: 0.79400045

00:49:32.058 --> 00:49:35.148 to all sorts of of tough adverse aerial

NOTE Confidence: 0.79400045

00:49:35.148 --> 00:49:37.083 head-to-head interactions in the office.

NOTE Confidence: 0.79400045

00:49:37.090 --> 00:49:38.980 So these patients often don't

NOTE Confidence: 0.79400045

00:49:38.980 --> 00:49:41.255 volunteer the full plate of their

NOTE Confidence: 0.79400045

00:49:41.255 --> 00:49:43.439 existence was not only do they fail

NOTE Confidence: 0.79400045

00:49:43.439 --> 00:49:46.187 to be believed by multiple providers,

NOTE Confidence: 0.79400045

00:49:46.190 --> 00:49:49.214 they lack faith that it will be recognized.

NOTE Confidence: 0.79400045

00:49:49.220 --> 00:49:51.551 So it took some controlling to get

NOTE Confidence: 0.79400045

00:49:51.551 --> 00:49:53.770 to the hypnagogic phenomena patient,

NOTE Confidence: 0.79400045

00:49:53.770 --> 00:49:56.339 really thought that they were going to

NOTE Confidence: 0.79400045

00:49:56.339 --> 00:49:58.688 be diagnosed with a mental disorder,

NOTE Confidence: 0.79400045

00:49:58.690 --> 00:49:59.065 but.

NOTE Confidence: 0.79400045

00:49:59.065 --> 00:50:02.065 When we preempted by telling them that we

NOTE Confidence: 0.79400045

00:50:02.065 --> 00:50:04.808 expect you probably have this and maybe

NOTE Confidence: 0.79400045

00:50:04.808 --> 00:50:07.580 you didn't mention to us they opened

NOTE Confidence: 0.79400045

00:50:07.580 --> 00:50:10.303 right up an SSRI emulated those systems.

NOTE Confidence: 0.79400045

00:50:10.310 --> 00:50:13.070 So we want to recognize all the subtle

NOTE Confidence: 0.79400045

00:50:13.070 --> 00:50:14.895 manifestations of these types of

NOTE Confidence: 0.79400045

00:50:14.895 --> 00:50:17.037 disorders and truly advocate for this

NOTE Confidence: 0.79400045

00:50:17.037 --> 00:50:19.862 niche of patients that may be truly

NOTE Confidence: 0.79400045

00:50:19.862 --> 00:50:21.462 reclusive and somewhat marginalized

NOTE Confidence: 0.79400045

00:50:21.470 --> 00:50:23.594 from mainstream medical care.

NOTE Confidence: 0.79400045

00:50:23.594 --> 00:50:24.656 In particularly,

NOTE Confidence: 0.79400045

00:50:24.660 --> 00:50:26.760 these young patients with hypersomnia

NOTE Confidence: 0.79400045

00:50:26.760 --> 00:50:29.200 idiopathic hypersomnia after ASM last year,

NOTE Confidence: 0.79400045

00:50:29.200 --> 00:50:31.928 I wanted to study a cohort of these

NOTE Confidence: 0.79400045

00:50:31.928 --> 00:50:34.923 and these patients who have idiopathic

NOTE Confidence: 0.79400045

00:50:34.923 --> 00:50:37.708 hypersomnia and narcolepsy not group.

NOTE Confidence: 0.79400045

00:50:37.710 --> 00:50:39.840 There.

NOTE Confidence: 0.79400045

00:50:39.840 --> 00:50:43.440 Waso time rivals that of.

NOTE Confidence: 0.79400045

00:50:43.440 --> 00:50:46.860 Mild, moderate OSA.

NOTE Confidence: 0.79400045

00:50:46.860 --> 00:50:49.317 And this data is still being analyzed

NOTE Confidence: 0.79400045

00:50:49.317 --> 00:50:51.505 in under analysis for to be presented

NOTE Confidence: 0.79400045

00:50:51.505 --> 00:50:53.560 the ASM in a couple of weeks.

NOTE Confidence: 0.79400045

00:50:53.560 --> 00:50:54.832 So on that note,

NOTE Confidence: 0.79400045

00:50:54.832 --> 00:50:56.104 I want to close.

NOTE Confidence: 0.79400045

00:50:56.110 --> 00:50:58.654 I want us all to recognize these patients.

NOTE Confidence: 0.79400045

00:50:58.660 --> 00:51:01.516 There is a well developed neurobiology

NOTE Confidence: 0.79400045

00:51:01.516 --> 00:51:04.229 that's being understood by some very.

NOTE Confidence: 0.79400045

00:51:04.230 --> 00:51:06.620 Detailed.

NOTE Confidence: 0.79400045

00:51:06.620 --> 00:51:08.870 Neurobiology that is well beyond the

NOTE Confidence: 0.79400045

00:51:08.870 --> 00:51:11.047 scope and breadth of Emir clinician

NOTE Confidence: 0.79400045

00:51:11.047 --> 00:51:13.876 like myself and so I I site and cut

NOTE Confidence: 0.79400045

00:51:13.876 --> 00:51:15.904 and pasted these with the steam.

NOTE Confidence: 0.79400045

00:51:15.910 --> 00:51:18.493 These state of the art for idio

NOTE Confidence: 0.79400045

00:51:18.493 --> 00:51:20.430 hypersomnia is an evolution.

NOTE Confidence: 0.79400045

00:51:20.430 --> 00:51:24.358 And at this point I'll conclude and openly.

NOTE Confidence: 0.79400045

00:51:24.360 --> 00:51:26.208 Remaining part of the talk to discussion.

NOTE Confidence: 0.811176799999999

00:51:29.980 --> 00:51:31.296 Great, well thank you.

NOTE Confidence: 0.811176799999999

00:51:31.296 --> 00:51:33.270 Thank you very much like roster

NOTE Confidence: 0.811176799999999

00:51:33.337 --> 00:51:34.952 and appreciate a wonderful talk

NOTE Confidence: 0.811176799999999

00:51:34.952 --> 00:51:37.436 and thanks for a nice overview of

NOTE Confidence: 0.811176799999999

00:51:37.436 --> 00:51:39.446 sleepiness and the general population

NOTE Confidence: 0.811176799999999

00:51:39.446 --> 00:51:42.720 through the ages as well as the

NOTE Confidence: 0.811176799999999

00:51:42.720 --> 00:51:44.780 various causes of hypersomnia.

NOTE Confidence: 0.811176799999999

00:51:44.780 --> 00:51:47.388 And sort of thinking of things that we

NOTE Confidence: 0.811176799999999

00:51:47.388 --> 00:51:50.267 beyond what you think about his sleep clinic.

NOTE Confidence: 0.811176799999999

00:51:50.270 --> 00:51:52.496 I've seen in the past couple Sonia

NOTE Confidence: 0.811176799999999

00:51:52.496 --> 00:51:54.718 and so I have a question.
NOTE Confidence: 0.8111767999999999

00:51:54.720 --> 00:51:57.663 I was hoping you could help us with and
NOTE Confidence: 0.8111767999999999

00:51:57.663 --> 00:52:00.867 I see there's also a few in the chat,
NOTE Confidence: 0.8111767999999999

00:52:00.870 --> 00:52:03.078 so in your experience of treating
NOTE Confidence: 0.8111767999999999

00:52:03.078 --> 00:52:04.550 these patients other particular
NOTE Confidence: 0.8111767999999999

00:52:04.607 --> 00:52:06.623 drugs that tend to work better for
NOTE Confidence: 0.8111767999999999

00:52:06.623 --> 00:52:08.399 a specific cause of hypersomnia,
NOTE Confidence: 0.8111767999999999

00:52:08.400 --> 00:52:10.344 so idiopathic Arbor summer Snorkel FC
NOTE Confidence: 0.8111767999999999

00:52:10.344 --> 00:52:12.763 versus that that may perhaps be residual
NOTE Confidence: 0.8111767999999999

00:52:12.763 --> 00:52:14.887 in somebody who has chronic epilepsy.
NOTE Confidence: 0.8446158

00:52:15.570 --> 00:52:17.020 It's a very good question.
NOTE Confidence: 0.8446158

00:52:17.020 --> 00:52:18.676 Recently this came up and we
NOTE Confidence: 0.8446158

00:52:18.676 --> 00:52:20.132 actually went outside our center
NOTE Confidence: 0.8446158

00:52:20.132 --> 00:52:21.926 to pull someone at another center.
NOTE Confidence: 0.8446158

00:52:21.930 --> 00:52:23.770 It's very difficult to tell
NOTE Confidence: 0.8446158

00:52:23.770 --> 00:52:26.540 because a lot of the stimulants.

NOTE Confidence: 0.8446158

00:52:26.540 --> 00:52:28.058 Provoke epileptiform discharges.

NOTE Confidence: 0.8446158

00:52:28.058 --> 00:52:31.600 It's felt without a lot of without

NOTE Confidence: 0.8446158

00:52:31.679 --> 00:52:34.259 a lot of authoritative evidence that

NOTE Confidence: 0.8446158

00:52:34.259 --> 00:52:36.970 may be Modafinil and armodafinil.

NOTE Confidence: 0.8446158

00:52:36.970 --> 00:52:39.050 Might be the safest.

NOTE Confidence: 0.8446158

00:52:39.050 --> 00:52:40.786 But there's little authoritative

NOTE Confidence: 0.8446158

00:52:40.786 --> 00:52:42.956 literature on what to do,

NOTE Confidence: 0.8446158

00:52:42.960 --> 00:52:44.644 which presents a problem.

NOTE Confidence: 0.8446158

00:52:44.644 --> 00:52:48.900 We always want to be on label and you know,

NOTE Confidence: 0.8446158

00:52:48.900 --> 00:52:51.660 we at the same time.

NOTE Confidence: 0.8446158

00:52:51.660 --> 00:52:53.232 With these conditions.

NOTE Confidence: 0.8446158

00:52:53.232 --> 00:52:56.900 There's a real potential to induce seizures,

NOTE Confidence: 0.8446158

00:52:56.900 --> 00:52:59.618 even in the.

NOTE Confidence: 0.8446158

00:52:59.620 --> 00:53:01.951 General population for drugs such as well

NOTE Confidence: 0.8446158

00:53:01.951 --> 00:53:04.159 bupropion which is treating depression.

NOTE Confidence: 0.8446158

00:53:04.160 --> 00:53:06.746 So there is some cortical excitability,
NOTE Confidence: 0.8446158

00:53:06.750 --> 00:53:08.910 but what to do authoritatively?
NOTE Confidence: 0.8446158

00:53:08.910 --> 00:53:12.430 Is we generally start.
NOTE Confidence: 0.8446158

00:53:12.430 --> 00:53:15.300 These noncardiac talks and not noncardiac
NOTE Confidence: 0.8446158

00:53:15.300 --> 00:53:17.290 talks stimulants in young patients
NOTE Confidence: 0.8446158

00:53:17.348 --> 00:53:19.322 in particular because they have a
NOTE Confidence: 0.8446158

00:53:19.322 --> 00:53:21.499 whole trajectory of life ahead of them,
NOTE Confidence: 0.8446158

00:53:21.500 --> 00:53:23.855 so we generally don't reach
NOTE Confidence: 0.8446158

00:53:23.855 --> 00:53:25.268 for Dexedrine spansule's.
NOTE Confidence: 0.8446158

00:53:25.270 --> 00:53:28.270 Also, there's an addiction potential.
NOTE Confidence: 0.8446158

00:53:28.270 --> 00:53:31.224 We try to use drugs that have
NOTE Confidence: 0.8446158

00:53:31.224 --> 00:53:33.649 a smoother but lower peak.
NOTE Confidence: 0.8446158

00:53:33.650 --> 00:53:35.892 Type of. PK,
NOTE Confidence: 0.8446158

00:53:35.892 --> 00:53:39.826 which may mitigate sleepiness longer but not.
NOTE Confidence: 0.8446158

00:53:39.830 --> 00:53:41.756 Cars addiction and may not cause
NOTE Confidence: 0.8446158

00:53:41.756 --> 00:53:45.079 cortical irritability, but this is.

NOTE Confidence: 0.8446158
00:53:45.080 --> 00:53:45.796 Not authoritative,
NOTE Confidence: 0.8446158
00:53:45.796 --> 00:53:47.586 but there's little neurobiology and
NOTE Confidence: 0.8446158
00:53:47.586 --> 00:53:49.730 research that verifies it's very complicated,
NOTE Confidence: 0.8446158
00:53:49.730 --> 00:53:52.594 so the weird guy that looks at squiggles,
NOTE Confidence: 0.8446158
00:53:52.600 --> 00:53:54.390 I mean me, the epileptologist.
NOTE Confidence: 0.8446158
00:53:54.390 --> 00:53:56.525 The neurologist usually gets these
NOTE Confidence: 0.8446158
00:53:56.525 --> 00:53:58.660 patients in the sleep clinic.
NOTE Confidence: 0.8446158
00:53:58.660 --> 00:53:59.698 It's very tough.
NOTE Confidence: 0.8446158
00:53:59.698 --> 00:54:01.774 We try to advocate and help,
NOTE Confidence: 0.8446158
00:54:01.780 --> 00:54:04.160 but we are bound by.
NOTE Confidence: 0.8446158
00:54:04.160 --> 00:54:06.666 The forces of our lack of understanding.
NOTE Confidence: 0.79853874
00:54:08.080 --> 00:54:10.540 Thank you, thank you very much,
NOTE Confidence: 0.79853874
00:54:10.540 --> 00:54:13.000 Doctor Robert Thomas from Beth Israel,
NOTE Confidence: 0.79853874
00:54:13.000 --> 00:54:16.280 lifting and then no new biology of sleep,
NOTE Confidence: 0.79853874
00:54:16.280 --> 00:54:18.350 wake, explain, or even perhaps we
NOTE Confidence: 0.79853874

00:54:18.350 --> 00:54:21.276 can speculate on the long sleep or
NOTE Confidence: 0.79853874

00:54:21.276 --> 00:54:23.248 hypersomnia seasonal affective disorder,
NOTE Confidence: 0.79853874

00:54:23.250 --> 00:54:25.300 bipolar and depression. In short,
NOTE Confidence: 0.79853874

00:54:25.300 --> 00:54:27.760 no sleep with bipolar and mania.
NOTE Confidence: 0.8187289

00:54:28.910 --> 00:54:30.182 It's really interesting and
NOTE Confidence: 0.8187289

00:54:30.182 --> 00:54:32.090 then the obverse or the inverse.
NOTE Confidence: 0.8187289

00:54:32.090 --> 00:54:34.556 With client 11 you know that.
NOTE Confidence: 0.8187289

00:54:34.560 --> 00:54:36.036 What pathways what?
NOTE Confidence: 0.8187289

00:54:36.036 --> 00:54:38.988 Parallel pathways what part of the
NOTE Confidence: 0.8187289

00:54:38.988 --> 00:54:41.587 pathways are involved not involved?
NOTE Confidence: 0.8187289

00:54:41.590 --> 00:54:44.229 Are yet to be figured out we.
NOTE Confidence: 0.8187289

00:54:44.230 --> 00:54:47.526 Really still don't understand a lot of these.
NOTE Confidence: 0.8187289

00:54:47.530 --> 00:54:50.620 Diseases, processes, conditions.
NOTE Confidence: 0.8187289

00:54:50.620 --> 00:54:55.870 Very deep. Question of which I hope.
NOTE Confidence: 0.8187289

00:54:55.870 --> 00:54:58.390 As we do more research.
NOTE Confidence: 0.8187289

00:54:58.390 --> 00:54:59.350 You can answer.

NOTE Confidence: 0.8187289

00:54:59.350 --> 00:55:02.339 I don't know if anyone else has it better.

NOTE Confidence: 0.8187289

00:55:02.340 --> 00:55:03.510 Understanding about.

NOTE Confidence: 0.90408134

00:55:05.980 --> 00:55:09.314 You know what is? Idiopathic hypersomnia

NOTE Confidence: 0.90408134

00:55:09.314 --> 00:55:11.970 we have a normal hypocretin level or or

NOTE Confidence: 0.90408134

00:55:12.031 --> 00:55:14.063 a third or greater than 1/3 of normal,

NOTE Confidence: 0.90408134

00:55:14.070 --> 00:55:16.177 but no cataplexy. What part of the

NOTE Confidence: 0.90408134

00:55:16.177 --> 00:55:17.983 pathway mediates that, if at all?

NOTE Confidence: 0.90408134

00:55:17.983 --> 00:55:20.090 Or is it a completely separate entity?

NOTE Confidence: 0.90408134

00:55:20.090 --> 00:55:22.360 I just. You just don't know

NOTE Confidence: 0.90408134

00:55:22.360 --> 00:55:23.500 and then how do you treat it?

NOTE Confidence: 0.90408134

00:55:23.500 --> 00:55:24.792 Because there are no.

NOTE Confidence: 0.90408134

00:55:24.792 --> 00:55:26.730 Or I'm legal drugs for that?

NOTE Confidence: 0.90408134

00:55:26.730 --> 00:55:30.018 Will you do so we push?

NOTE Confidence: 0.90408134

00:55:30.020 --> 00:55:31.612 Treating this comorbid psychiatric

NOTE Confidence: 0.90408134

00:55:31.612 --> 00:55:33.204 conditions and behavioral therapy,

NOTE Confidence: 0.90408134

00:55:33.210 --> 00:55:35.098 we ally, fortunately enough,
NOTE Confidence: 0.90408134

00:55:35.098 --> 00:55:37.930 with a very quick cognitive behavioral.
NOTE Confidence: 0.90408134

00:55:37.930 --> 00:55:39.710 Provider who saves the day.
NOTE Confidence: 0.90408134

00:55:39.710 --> 00:55:42.391 Many of the times because often these
NOTE Confidence: 0.90408134

00:55:42.391 --> 00:55:45.251 young patients with hypersomnia they have a
NOTE Confidence: 0.90408134

00:55:45.251 --> 00:55:48.050 very significant phase delay and they are.
NOTE Confidence: 0.90408134

00:55:48.050 --> 00:55:51.182 Propagating that and they have self
NOTE Confidence: 0.90408134

00:55:51.182 --> 00:55:53.270 propagating factors of precipita
NOTE Confidence: 0.90408134

00:55:53.347 --> 00:55:55.419 or perpetuating factors of.
NOTE Confidence: 0.90408134

00:55:55.420 --> 00:55:56.746 Of sleep dysfunction.
NOTE Confidence: 0.90408134

00:55:56.746 --> 00:55:58.956 Insomnia, commingled with these disorders.
NOTE Confidence: 0.90408134

00:55:58.960 --> 00:56:00.736 So the borderland between
NOTE Confidence: 0.90408134

00:56:00.736 --> 00:56:02.068 psychiatry and neurology.
NOTE Confidence: 0.90408134

00:56:02.070 --> 00:56:02.513 I,
NOTE Confidence: 0.90408134

00:56:02.513 --> 00:56:06.500 I think about Mccarley and what he stood for,
NOTE Confidence: 0.90408134

00:56:06.500 --> 00:56:08.720 although his adenosine pathway doesn't

NOTE Confidence: 0.90408134

00:56:08.720 --> 00:56:11.436 quite have relevance in industry and

NOTE Confidence: 0.90408134

00:56:11.436 --> 00:56:13.810 maybe an effort epiphenomenon, but it's.

NOTE Confidence: 0.90408134

00:56:13.810 --> 00:56:15.485 It's a marker of something

NOTE Confidence: 0.90408134

00:56:15.485 --> 00:56:17.540 we have yet to understand,

NOTE Confidence: 0.90408134

00:56:17.540 --> 00:56:19.136 so that was a very rambly,

NOTE Confidence: 0.90408134

00:56:19.140 --> 00:56:20.475 long winded answer to that

NOTE Confidence: 0.90408134

00:56:20.475 --> 00:56:21.543 question or lack of.

NOTE Confidence: 0.83281165

00:56:23.620 --> 00:56:27.390 I am and so I think we have time for just

NOTE Confidence: 0.83281165

00:56:27.480 --> 00:56:30.819 one more and there is a related

NOTE Confidence: 0.83281165

00:56:30.819 --> 00:56:33.380 question to intersection two in

NOTE Confidence: 0.83281165

00:56:33.380 --> 00:56:35.460 psychiatric disorders and hypersomnia

NOTE Confidence: 0.83281165

00:56:35.460 --> 00:56:39.064 and is there any relationship between

NOTE Confidence: 0.83281165

00:56:39.064 --> 00:56:41.790 psychosis and hypersomnia? Well,

NOTE Confidence: 0.760667662727273

00:56:41.790 --> 00:56:46.824 yes, I believe. William Dimension Stanford

NOTE Confidence: 0.760667662727273

00:56:46.824 --> 00:56:50.770 pioneered those studies years ago.

NOTE Confidence: 0.760667662727273

00:56:50.770 --> 00:56:54.018 I don't want to misspeak, but I remember.
NOTE Confidence: 0.87383723

00:56:57.050 --> 00:56:59.546 When they took graduate students and.
NOTE Confidence: 0.87383723

00:56:59.550 --> 00:57:02.530 Sweet deprive them, and they did. You know?
NOTE Confidence: 0.68480396

00:57:04.880 --> 00:57:07.465 Persistence of wakefulness tests in
NOTE Confidence: 0.68480396

00:57:07.465 --> 00:57:11.102 their site. Piper reaction time,
NOTE Confidence: 0.68480396

00:57:11.102 --> 00:57:13.909 but if you really sleep deprived someone
NOTE Confidence: 0.68480396

00:57:13.909 --> 00:57:16.970 you can produce an affective psychosis so.
NOTE Confidence: 0.68480396

00:57:16.970 --> 00:57:21.860 Where does the circuitry? For that.
NOTE Confidence: 0.68480396

00:57:21.860 --> 00:57:23.408 Coming on these pathways in the
NOTE Confidence: 0.68480396

00:57:23.408 --> 00:57:25.739 frontal lobes, we don't know.
NOTE Confidence: 0.68480396

00:57:25.740 --> 00:57:27.321 Takeover become unleashed.
NOTE Confidence: 0.68480396

00:57:27.321 --> 00:57:30.483 Where does the neurobiology of of.
NOTE Confidence: 0.68480396

00:57:30.490 --> 00:57:32.730 From having a normal sleep wake period
NOTE Confidence: 0.68480396

00:57:32.730 --> 00:57:35.495 to one that sleep deprived where you
NOTE Confidence: 0.68480396

00:57:35.495 --> 00:57:37.665 become like fatal familial insomnia.
NOTE Confidence: 0.68480396

00:57:37.670 --> 00:57:38.918 These patients.

NOTE Confidence: 0.68480396

00:57:38.918 --> 00:57:43.286 Profoundly deranged and I don't know about.

NOTE Confidence: 0.68480396

00:57:43.290 --> 00:57:44.418 More appropriate medical term,

NOTE Confidence: 0.68480396

00:57:44.418 --> 00:57:46.110 but they the more sleep deprived

NOTE Confidence: 0.68480396

00:57:46.162 --> 00:57:47.059 you are chronically,

NOTE Confidence: 0.68480396

00:57:47.060 --> 00:57:49.090 the more tendency for psychosis do is,

NOTE Confidence: 0.68480396

00:57:49.090 --> 00:57:51.910 I think that's accepted.

NOTE Confidence: 0.68480396

00:57:51.910 --> 00:57:54.038 That's why this area is so fascinating.

NOTE Confidence: 0.68480396

00:57:54.040 --> 00:57:55.560 Maybe 50 years from now.

NOTE Confidence: 0.68480396

00:57:55.560 --> 00:57:56.631 Some other condition.

NOTE Confidence: 0.68480396

00:57:56.631 --> 00:57:58.059 It is very demanding.

NOTE Confidence: 0.68480396

00:57:58.060 --> 00:57:58.988 Patients will have answer.

NOTE Confidence: 0.82595694

00:58:00.800 --> 00:58:02.104 Great, well thank you.

NOTE Confidence: 0.82595694

00:58:02.104 --> 00:58:04.060 Thank you for a wonderful talk

NOTE Confidence: 0.82595694

00:58:04.130 --> 00:58:06.412 and for giving us a chance to

NOTE Confidence: 0.82595694

00:58:06.412 --> 00:58:08.014 think about hypersomnia and a

NOTE Confidence: 0.82595694

00:58:08.014 --> 00:58:09.676 little bit of a different way.
NOTE Confidence: 0.82595694

00:58:09.680 --> 00:58:11.012 They were traditionally approach
NOTE Confidence: 0.82595694

00:58:11.012 --> 00:58:13.656 it and so with this I'd like to
NOTE Confidence: 0.82595694

00:58:13.656 --> 00:58:15.402 close the conference and say that
NOTE Confidence: 0.82595694

00:58:15.402 --> 00:58:17.597 this is our last joint yell sleep.
NOTE Confidence: 0.82595694

00:58:17.600 --> 00:58:18.844 Harvard Tufts Seminar will
NOTE Confidence: 0.82595694

00:58:18.844 --> 00:58:20.399 resume our meetings next fall
NOTE Confidence: 0.82595694

00:58:20.399 --> 00:58:22.040 this coming fall in September.
NOTE Confidence: 0.82595694

00:58:22.040 --> 00:58:23.958 And then we still have a couple
NOTE Confidence: 0.82595694

00:58:23.958 --> 00:58:25.832 of meetings left for the Yale
NOTE Confidence: 0.82595694

00:58:25.832 --> 00:58:27.156 regularly seminars that occur
NOTE Confidence: 0.82595694

00:58:27.156 --> 00:58:29.010 at 2:00 o'clock on Wednesdays.
NOTE Confidence: 0.82595694

00:58:29.010 --> 00:58:32.180 And so if you do wish to receive CME credit,
NOTE Confidence: 0.82595694

00:58:32.180 --> 00:58:35.820 please go ahead and text the code.
NOTE Confidence: 0.82595694

00:58:35.820 --> 00:58:37.100 To the CME number,
NOTE Confidence: 0.82595694

00:58:37.100 --> 00:58:39.449 and we look forward to seeing you

NOTE Confidence: 0.82595694

00:58:39.449 --> 00:58:41.567 guys again in the next Wednesday.

NOTE Confidence: 0.82595694

00:58:41.570 --> 00:58:43.260 Take care everybody thank you.

NOTE Confidence: 0.82595694

00:58:43.260 --> 00:58:43.930 Bye bye.