17th Annual Sleep Medicine Virtual Course

Saturday, March 22, 2025

New Perspectives on Restless Legs Syndrome Management

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HARVARD MEDICAL SCHOOL

MASSACHUSETTS GENERAL HOSPITAL

Conflict of Interest Disclosures for Speakers

John Winkelman MD PhD has no relevant financial relationships with ineligible companies to disclose.

Learning objectives

1. Understand the differential diagnosis of RLS
2. Understand the benefits and common side effects of common RLS treatments
3. Identify the approach to dopaminergic RLS augmentation
4. Understand the special requirements for management of patients taking opioids for RLS

RLS CURBSIDE (rlscurbside.org)

Join RLSCurbside.org

RLS curbside

RESTLESS LEGS SYNDROME

An online discussion board for healthcare practitioners

The mission of RLS Curbside is to help optimize management of complicated RLS patients by providing a ***free***, ***HIPAA-compliant***, provider-to-provider forum, ***independent of any commercial influence***.

This tool will enable healthcare providers to confidently treat RLS with the most efficacious, evidence-based, personalized treatments for their patients.

Case presentation

- 39-year-old female with complaints of trouble sleeping and a feeling of “uncomfortable” sensations in her lower legs, associated with an urge to move, relieved by standing/walking/stretching. She recalled similar feelings during her recent pregnancy.
- Her symptoms begin in the evening and worsen when lying down at bedtime, extending time to fall asleep by 1-2 hours 4x/wk.
- PMH: gastric bypass surgery, G2P2, Panic Disorder
- Medications: Fluoxetine 20 mg
- Neurological Exam: unremarkable
- Labs: Hgb=12.6, Ferritin=25, Transferrin Saturation=14%

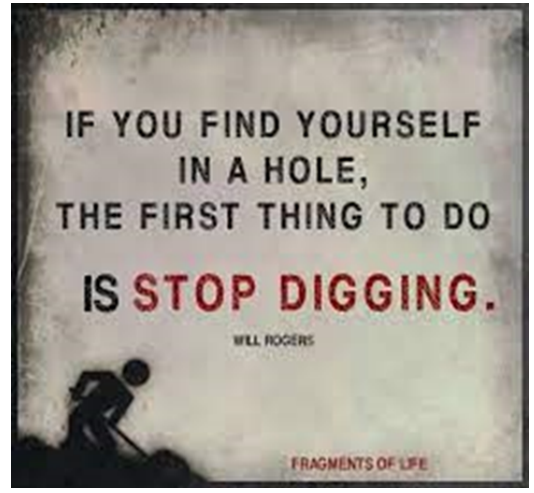
The honeymoon…

- Treatment with IV iron 1000 mg administered without benefit after 3 months
- Neurology initiated ropinirole with uptitration to 2 mg at 8pm with immediate elimination of evening and overnight RLS symptoms

….then the reality

- She returned 16 months later reporting persistent benefit for evening and bedtime symptoms but nocturnal awakenings most nights with RLS, interfering with return to sleep for 1-2 hours

- Ferritin=210, TSAT=25%

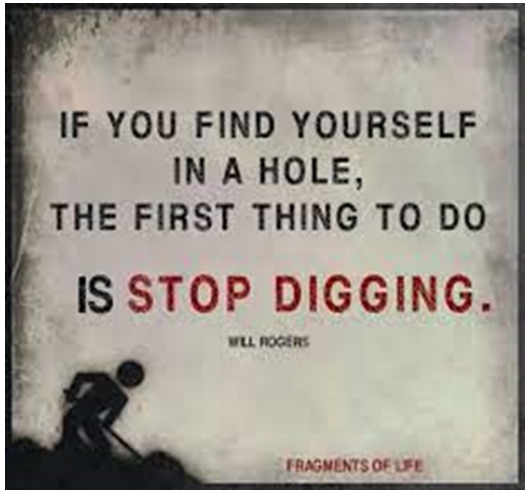


Start digging…. then over your head….

- Neurology increased ropinirole to 2 mg q8pm and QHS with immediate improvement in overnight RLS

- She returned 8 months later reporting an earlier onset of symptoms such that she was using a standing desk at work and needed to pull over on the commute home to alleviate the uncomfortable sensation in her legs. Symptoms in her legs have increased in severity and are now also occurring in her shoulders and forearms.

- Ferritin=195, TSAT=24%



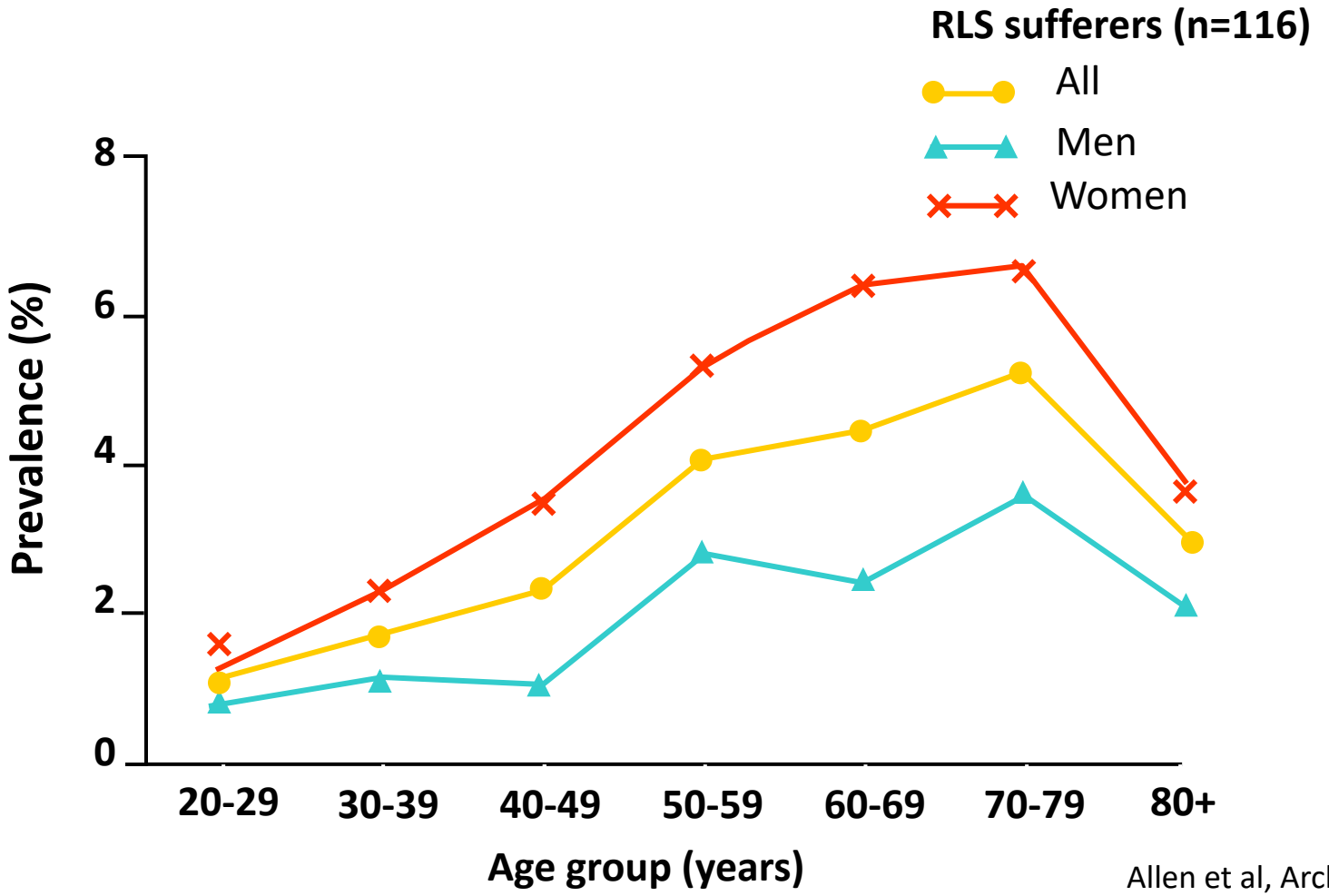
RLS—*The "URGED" Acronym*

- **U**rge to move limbs, usually accompanied or caused by uncomfortable and unpleasant feelings in the limbs
- **R**est worsens or inactivity precipitates symptoms
- **G**etting up or moving improves the sensation
- **E**vening worsening or nighttime appearance of symptoms
- **D**oes not occur due to an RLS mimic: eg leg cramps

RLS is the Third Most Common Sleep Disorder in Adults

SLEEP DISORDER	PREVALENCE (%)
Chronic insomnia	10
Sleep Apnea	5
RLS	2.5
Narcolepsy	0.05

Prevalence of clinically significant RLS in adults in Western countries



Allen et al, Arch Int Med, 2005

RLS Nosology

“Primary” RLS

Idiopathic

Familial (40-60%)

“Reversible” RLS

Iron Deficiency (?%)

Renal Failure (25%)

Pregnancy (20%)

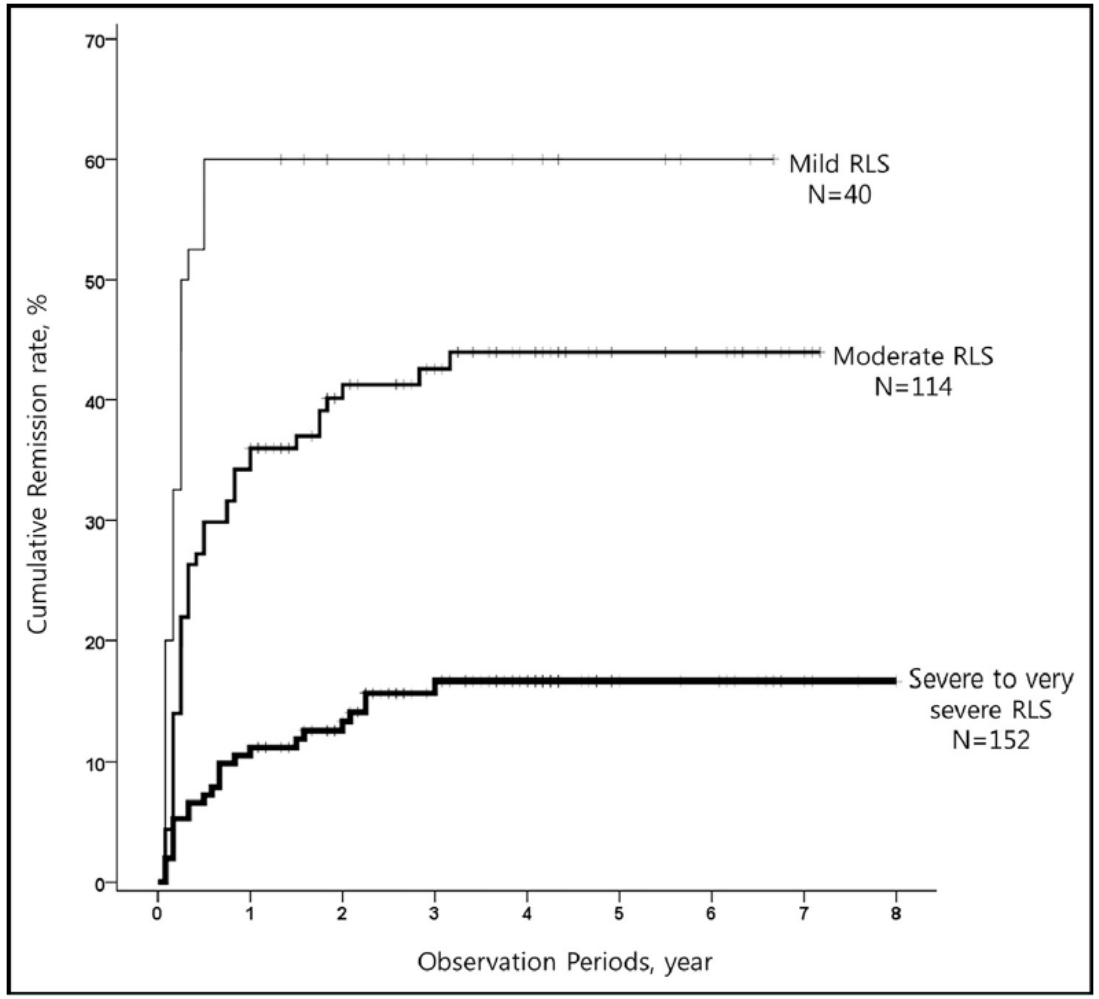
Peripheral Neuropathy/MS

Antidepressants

Rheumatoid Arthritis

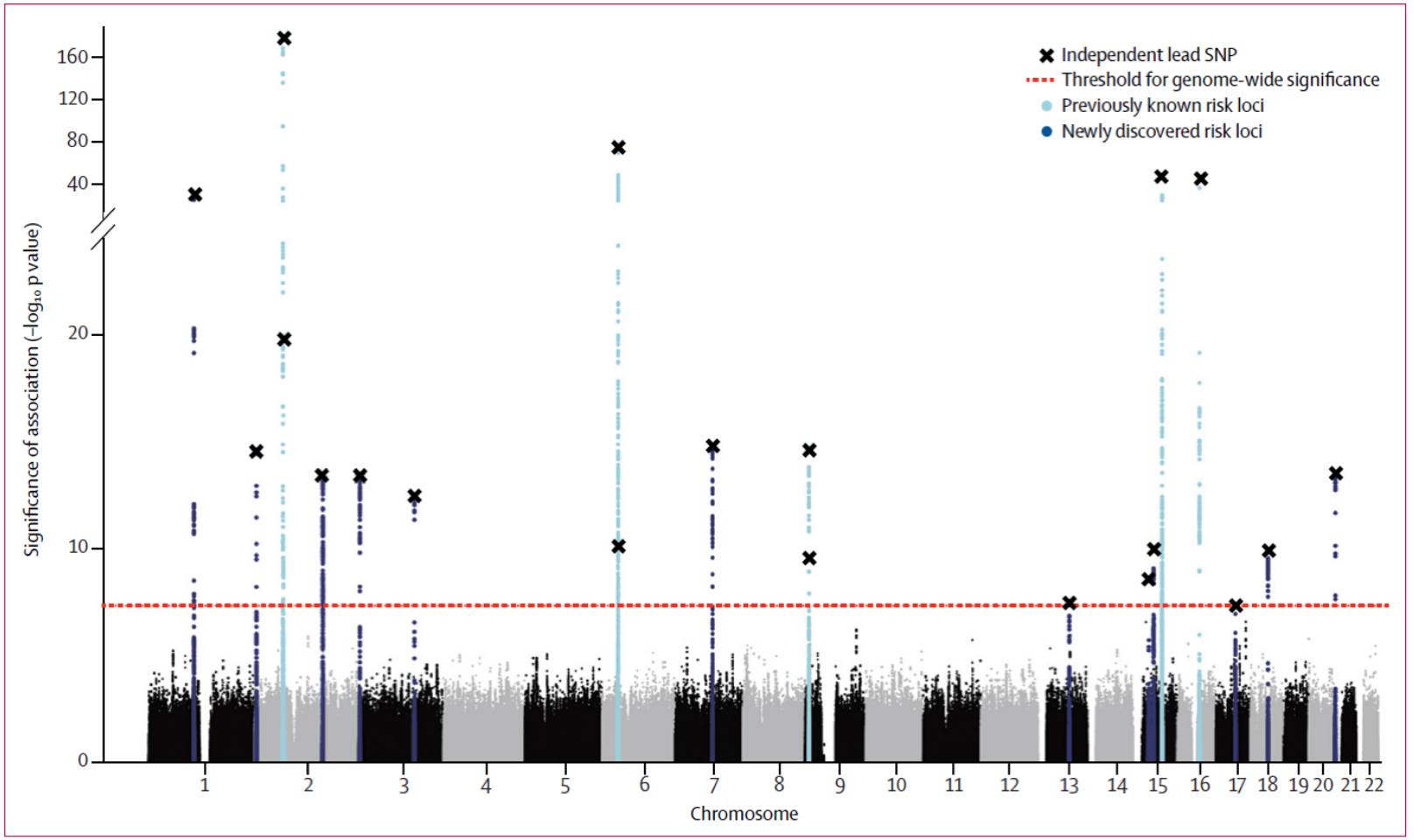
Opioid withdrawal (30-50%)

RLS is usually chronic in moderate- severe cases



Lee et al, Am J Med, 2016

There is a strong genetic basis for RLS



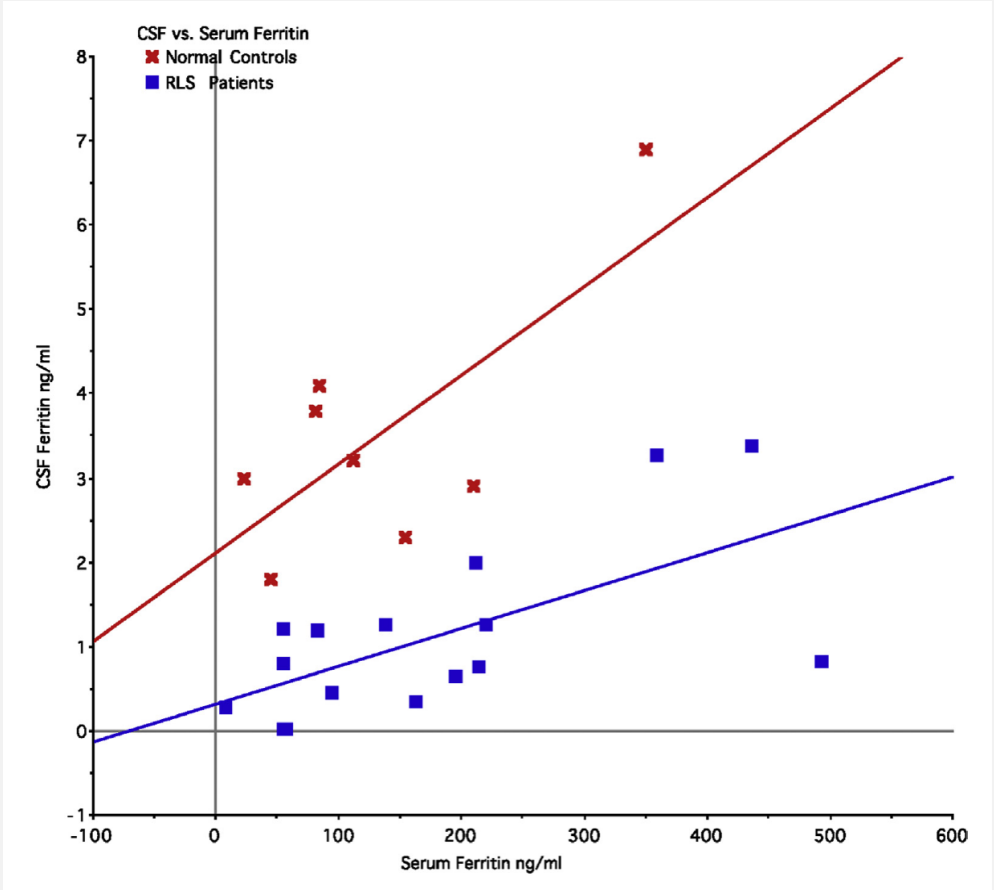
Schormair et al, *Lancet Neurol*, 2017

Brain iron deficiency in RLS

Multiple lines of evidence suggest abnormal CNS iron in RLS

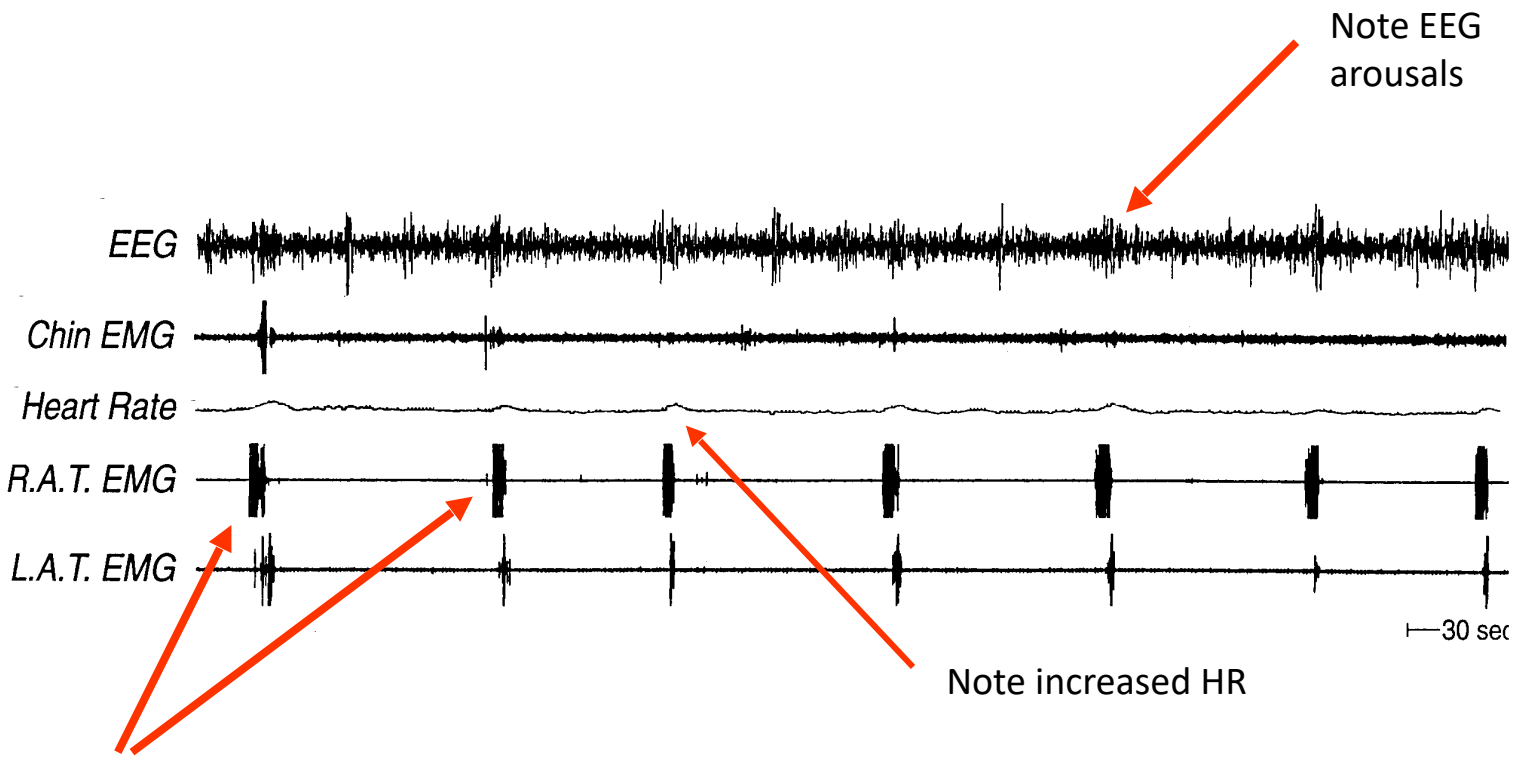
- MRI
- Neuropathology
- CSF
- Transcranial doppler

However, the majority of individuals with RLS will have normal serum iron and ferritin indices



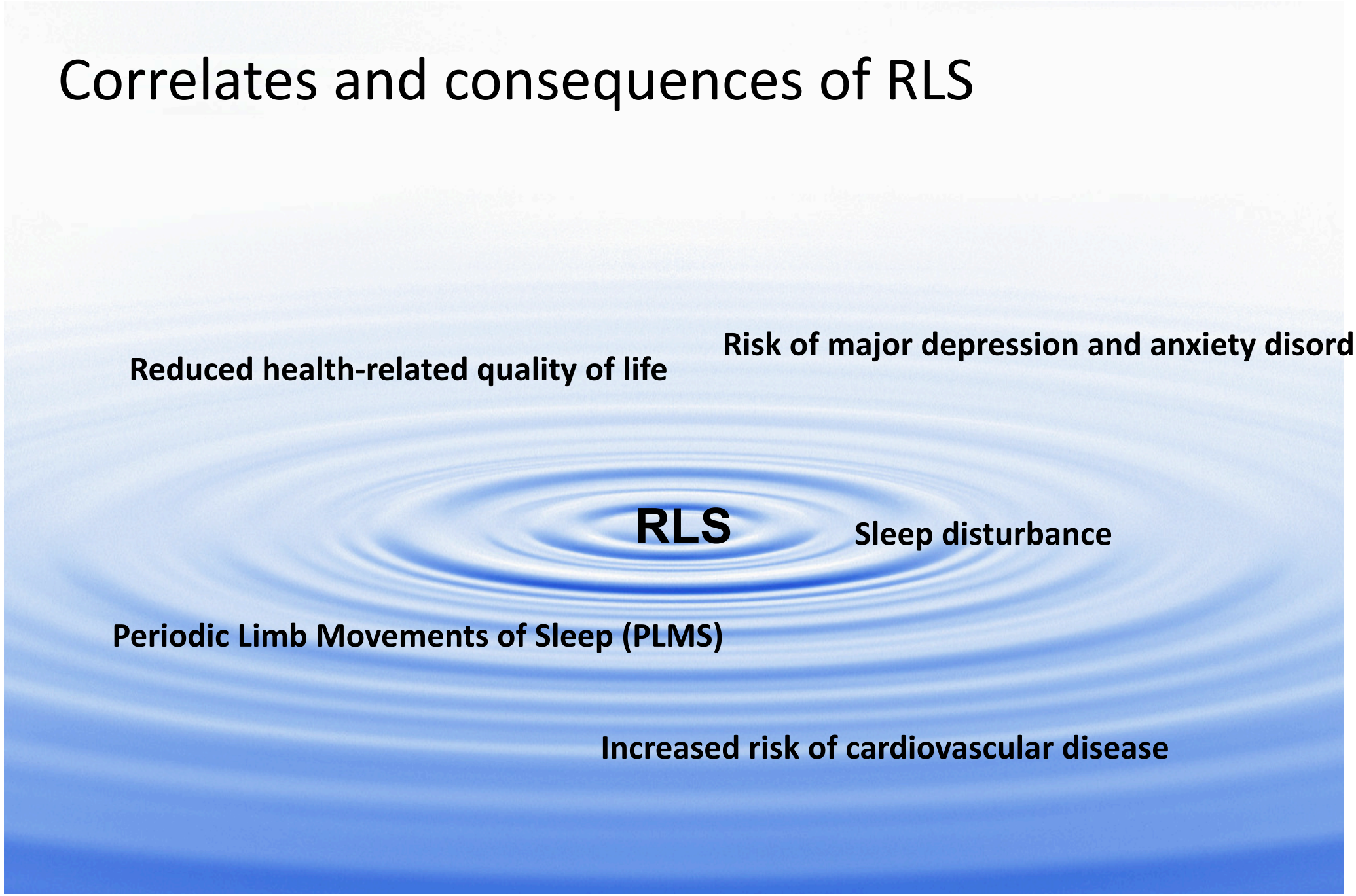
Earley et al, Neurology, 2000

Periodic Limb Movements of Sleep (PLMS) are the motor sign of RLS



Repetitive stereotyped movements of foot/leg

Correlates and consequences of RLS



JCSM | Journal of Clinical Sleep Medicine

SPECIAL ARTICLES

Treatment of restless legs syndrome and periodic limb movement disorder: an American Academy of Sleep Medicine clinical practice guideline

John W. Winkelman, MD, PhD, FAASM[1,2]; J. Andrew Berkowski, MD[3]; Lourdes M. DelRosso, MD, PhD, FAASM[4]; Brian B. Koo, MD[5,6]; Matthew T. Scharf, MD, PhD[7]; Denise Sharon, MD, PhD, FAASM[8,9]; Rochelle S. Zak, MD, FAASM[10]; Uzma Kazmi, MPH[11]; Yngve Falck-Ytter, MD[12,13]; Anita V. Shelgikar, MD, MHPE, FAASM[14]; Lynn Marie Trotti, MD[15]; Arthur S. Walters, MD, FAASM[16]

These are recommendations
NOT requirements or prohibitions

AASM American Academy of SLEEP MEDICINE™

Good practice statements for RLS

1. First step in management: address factors that exacerbate RLS e.g. alcohol, antihistaminergic, serotonergic, anti-dopaminergic medications, untreated OSA
2. Regularly test serum iron studies: ferritin and iron with total iron binding capacity (transferrin saturation%)
3. RLS is common in pregnancy; prescribers should consider the pregnancy-specific safety profile of each treatment being considered

Strongly Recommended for Adults with RLS

Intervention	Presence of Improvement in Clinical Significance Thresholds			Presence of Augmentation
	Disease Severity	Sleep Quality	Quality of Life	
Gabapentin	Y	N	N	-
Gabapentin enacarbil	Y	Y	Y	-
Pregabalin	Y	Y	N	-
IV ferric carboxymaltose	Y	N	Y	-

Note: Recommendations are listed by strength and class of treatment, not in order of preference

AASM
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SLEEP MEDICINE™

Conditionally Recommended for Adults with RLS

Intervention	Presence of Improvement in Clinical Significance Thresholds			Presence of Augmentation
	Disease Severity	Sleep Quality	Quality of Life	
IV LMW iron dextran	Y	-	-	-
Ferrous sulfate	Y	-	-	-
Dipyridamole	Y	-	-	-
Oxycodone and other mu opioids	Y	N	-	-
Peroneal nerve stimulation	Y	-	-	-

Note: Recommendations are not listed in order of preference

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Conditionally Suggested Against for Adults with RLS

Intervention	Presence of Improvement in Clinical Significance Thresholds			Presence of Augmentation
	Disease Severity	Sleep Quality	Quality of Life	
Levodopa[b]	N	N	N	Y
Pramipexole[b]	Y	Y	Y	Y
Transdermal Rotigotine[b]	Y	Y	Y	Y
Ropinorole[b]	Y	N	Y	Y
Buproprion	N	-	-	-

[B] Patients who place a higher value on the reduction of restless legs symptoms in the short term and a lower value on adverse effects (particularly augmentation with long-term use) could select these medications for RLS treatment.

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Four classes of medication have well established efficacy for RLS

- **Calcium Channel α2δ ligands (A2D)**
- **Iron (PO and IV)**
- **Opioids**
- **Dopaminergic agents (DA)**

Calcium Channel α2δ ligands (A2Ds)

- Gabapentin (Neurontin): 300-3000 mg QD
- Gabapentin enacarbil (Horizant): 600-1200 mg QD
- Pregabalin (Lyrica): 150-600 mg QD

- Potential side effects: sedation, dizziness, weight gain, gait instability, cognitive dysfunction
- No evidence of augmentation

Gabapentin has non-linear pharmacokinetics, thus should be prescribed BID or TID once >600 mg (eg 6pm, 8pm, 10pm)

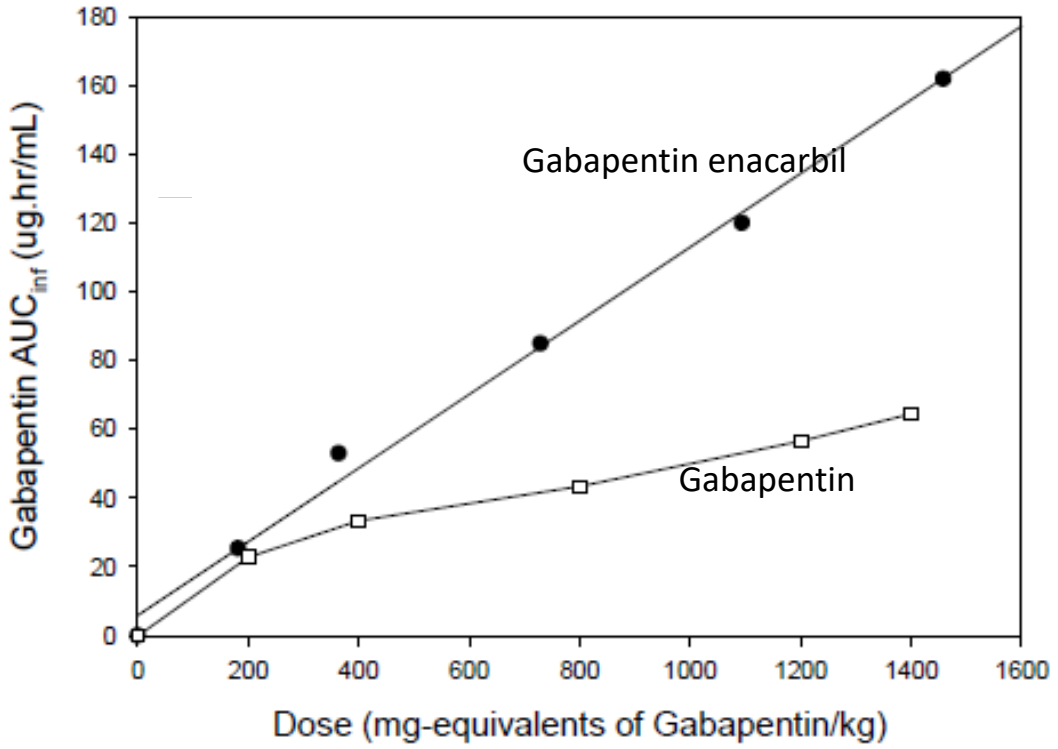
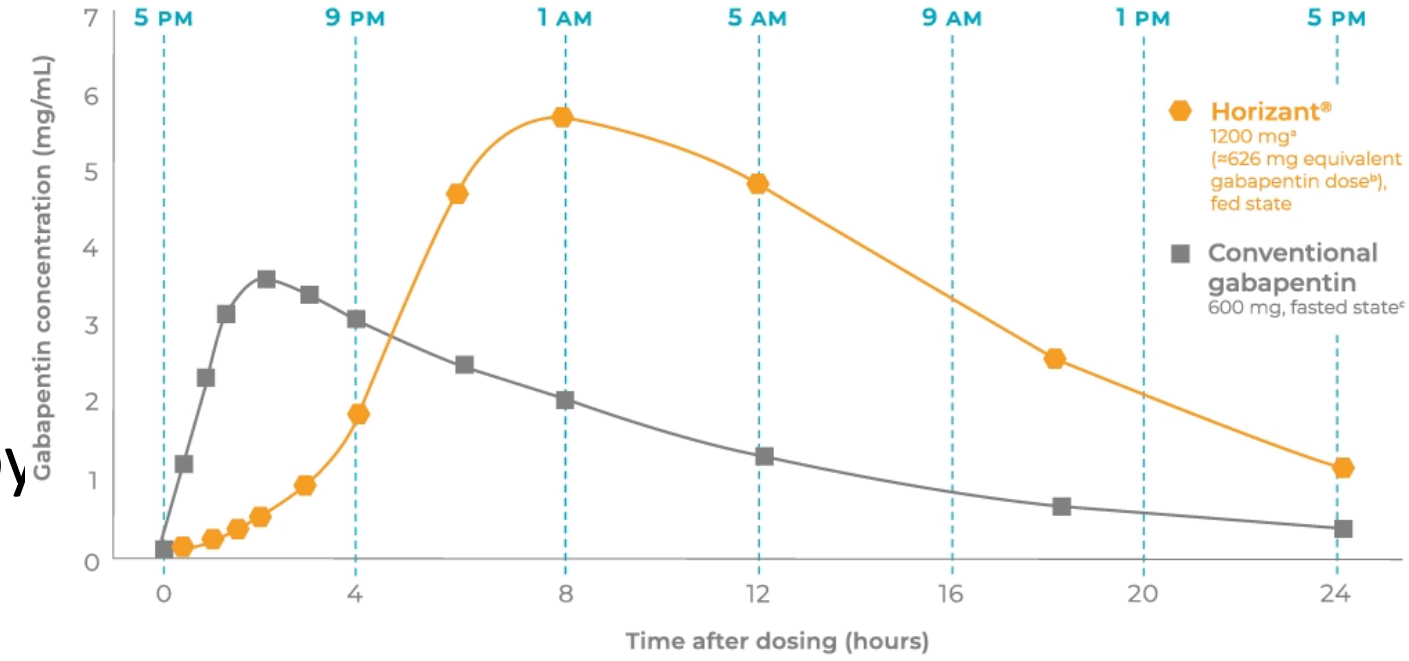


Figure 3 (above). Dose proportionality of gabapentin AUC_{inf} in blood after single oral doses of XP13512 (N=8) and non-dose proportionality after Neurontin® (n=10)

Gabapentin enacarbil treatment of RLS

- Controlled release prodrug form of gabapentin
- Linear pharmacokinetics
- Administered once per day at 5pm
- Absorption substantially increased by taking with fatty meal
- Dosage: 600 (FDA)-1200 mg/d



Pregabalin treatment of RLS

- Does not have the absorption issues of gabapentin (ie has linear pharmacokinetics)
- Very similar half-life to gabapentin so multiple daily dosing may be necessary for patients with symptoms during the day and night

Pregabalin and pramipexole have equal efficacy

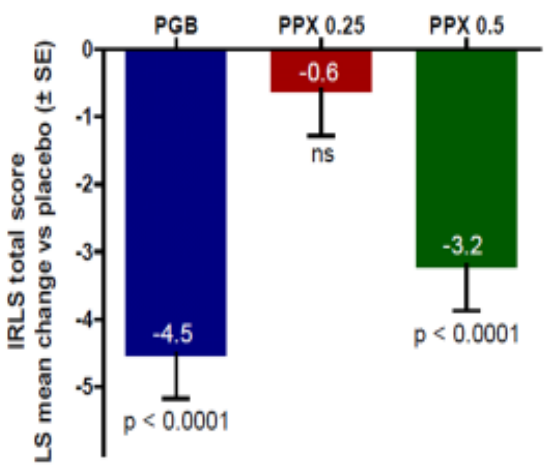
…with much higher augmentation risk for pramipexole

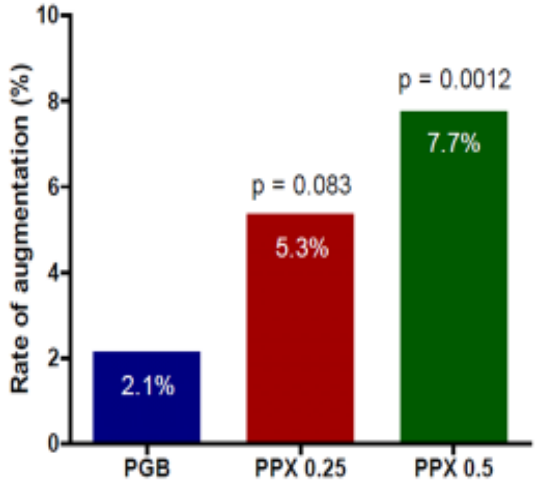
The NEW ENGLAND JOURNAL of MEDICINE 2014

ORIGINAL ARTICLE

Comparison of Pregabalin with Pramipexole for Restless Legs Syndrome

Richard P. Allen, Ph.D., Crystal Chen, M.D., Diego Garcia-Borreguero, M.D., Ph.D., Olli Polo, M.D., Sarah DuBrava, M.S., Jeffrey Miceli, Ph.D., Lloyd Knapp, Pharm.D., and John W. Winkelman, M.D., Ph.D.





Dopaminergics are no longer recommended as standard treatment for RLS (AASM, 2024)

Ropinirole, pramipexole, rotigotine

FDA-approved treatments for RLS

“Miracle” short-intermediate term efficacy for RLS symptoms

Reduce/eliminate PLMS and improve subjective sleep quality

Dopaminergic augmentation of RLS

appear earlier in the day

have shortened latency to onset with immobility

SYMPTOMS ARE WORSE

extend to arms

are of increased severity

1-year augmentation rate of 9% with pramipexole (0.5 mg)

Table 3. Rate of Augmentation after 40 and 52 Weeks of Treatment.*

Variable	Augmentation at 40 Wk	Augmentation at 52 Wk	Augmentation Overall	P Value
Pregabalin				
Patients assessed — no.	59	176	235	
Patients with augmentation — no. (%)	2 (3.4)	3 (1.7)	5 (2.1)	—
Pramipexole, 0.25 mg				
Patients assessed — no.	58	167	225	
Patients with augmentation — no. (%)	1 (1.7)	11 (6.6)	12 (5.3)	0.08
Pramipexole, 0.5 mg				
Patients assessed — no.	57	178	235	
Patients with augmentation — no. (%)	2 (3.5)	16 (9.0)	18 (7.7)	0.001

* P values, which are for overall augmentation rates in the pregabalin group as compared with each of the pramipexole groups, were calculated with the use of a stratified log-rank test according to block (40 or 52 weeks of active treatment). Data for patients without augmentation were censored at the time of discontinuation or completion of the study.

ORIGINAL ARTICLE

High national rates of high-dose dopamine agonist prescribing for restless legs syndrome

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Massachusetts General Hospital, Boston, MA, USA

OXFORD Sleep Research Society®

SLEEPJ, 2022, 1–9

https://doi.org/10.1093/sleep/zsab212
Advance Access Publication Date: 21 August 2021
Original Article

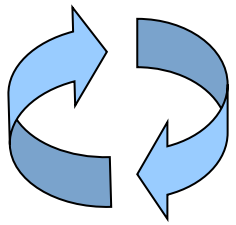
- **58% (~400,000) of all US medication-treated RLS patients are prescribed Das (2017-2018)**
- **19.1% (~75,000) of these patients were prescribed doses above maximum FDA + guideline levels (ie >.75 mg PPX, 4 mg RPN)**
- **Such high doses are necessary due to augmentation of RLS (worsening due to treatment)**

	Any Dose Level	LOW-MODERATE	HIGH (> FDA maximum dose)	VERY HIGH (>150% of FDA maximum)
Total	670,404			
Non-DA Therapy	275,922/670,404 (41.2%)			
Any DA Therapy	394,482/670,404 (58.8%)	319,423/394,482 (81.0%)	33,747/394,482 (8.6%)	41,311/394,482 (10.5%)
DA Monotherapy	392,045/394,482 (99.4%)	318,709/392,045 (81.3%)	33,202/392,045 (8.5%)	40,134/392,045 (10.2%)
Pramipexole	146,254/394,482 (37.1%)	95,488/146,254 (65.3%)	21,737/146,254 (14.9%)	29,029/146,254 (19.8%)
Ropinirole	242,428/394,482 (61.5%)	221,092/242,428 (91.2%)	10,469/242,428 (4.3%)	10,867/242,428 (4.5%)
Rotigotine	3,363/394,482 (0.9%)	2,129/3,363 (63.3%)	996/3,363 (29.6%)	238/3,363 (7.1%)
DA Combination	2,437/394,482 (0.6%)	713/2,437 (29.3%)	545/2,437 (22.4%)	1,177/2,437 (48.3%)

Augmentation is the primary challenge currently facing clinicians treating RLS

- Many MDs increase the DA dose when RLS symptoms worsen…but that is just a temporary fix
- Because augmentation continues and in fact…is more likely with higher doses of DA medications
- **PUTTING OUT FIRE WITH GASOLINE!**

Increased DA doses

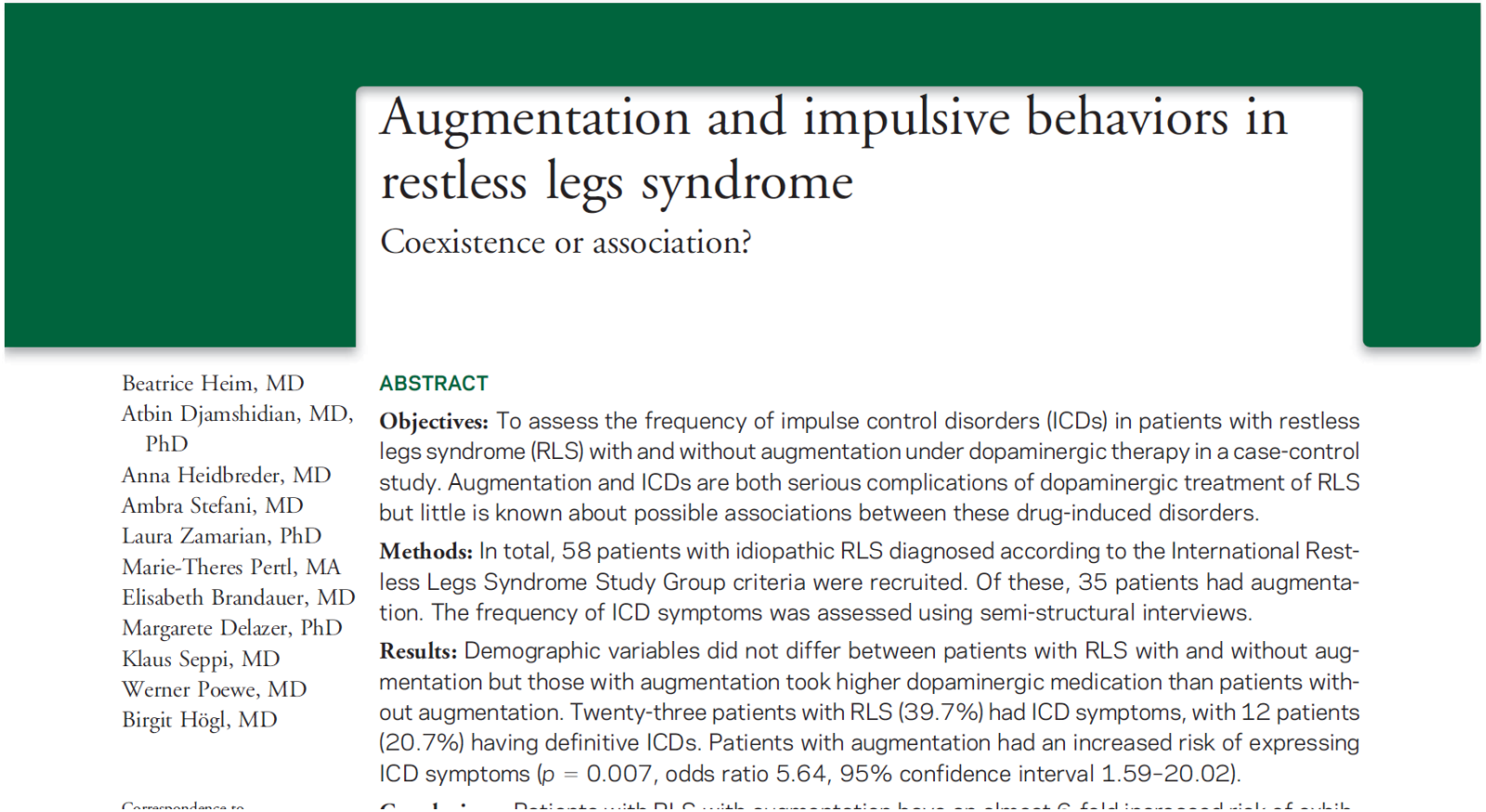


RLS worsening due to augmentation

If you prescribe a DA for RLS: at each appointment assess RLS timing and severity

TIME	Frequency (days/wk) AND severity
07:00-12:00	x/7 days, mild/moderate/severe/very severe
12:00-18:00	x/7 days, XX severity
18:00-22:00	x/7 days, XX severity
22:00-07:00	x/7 days, XX severity

Impulse control disorders (ICDs)



Augmentation and impulsive behaviors in restless legs syndrome

Coexistence or association?

Beatrice Heim, MD
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Margarete Delazer, PhD
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Werner Poewe, MD
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ABSTRACT

Objectives: To assess the frequency of impulse control disorders (ICDs) in patients with restless legs syndrome (RLS) with and without augmentation under dopaminergic therapy in a case-control study. Augmentation and ICDs are both serious complications of dopaminergic treatment of RLS but little is known about possible associations between these drug-induced disorders.

Methods: In total, 58 patients with idiopathic RLS diagnosed according to the International Restless Legs Syndrome Study Group criteria were recruited. Of these, 35 patients had augmentation. The frequency of ICD symptoms was assessed using semi-structural interviews.

Results: Demographic variables did not differ between patients with RLS with and without augmentation but those with augmentation took higher dopaminergic medication than patients without augmentation. Twenty-three patients with RLS (39.7%) had ICD symptoms, with 12 patients (20.7%) having definitive ICDs. Patients with augmentation had an increased risk of expressing ICD symptoms ($p = 0.007$, odds ratio 5.64, 95% confidence interval 1.59–20.02).

- Prevalence: 7-40%
- Risk factors: Augmentation, female sex, history of depression, sleep problems, and younger age of RLS onset

IV and PO iron treatments in RLS

Patients with moderate to severe RLS with ferritin <75 ng/ml (mean=38)

PO FeSO4 325 BID daily

Results values at baseline to 12 weeks for patients randomized to iron and placebo groups.

	Iron group	Placebo group	*p*-Value*
IRLS baseline score (mean ± SD)	24.8 ± 5.72	23.0 ± 5.03	0.49
IRLS score change at 12 weeks (mean ± SD)	−10.3 ± 7.40	−1.14 ± 5.64	*0.01*
Ferritin baseline (mean ± SD)	40.6 ± 15.3 (ng/ml)	36.7 ± 20.8 (ng/ml)	0.68
Ferritin change at 12 weeks (mean ± SD)	+25.1 ± 20.3 (ng/ml)	+7.5 ± 13.7 (ng/ml)	*0.04*
Overall quality of life[a]			
Improved	7	1	0.07
Stayed the same or worsened	4	6	

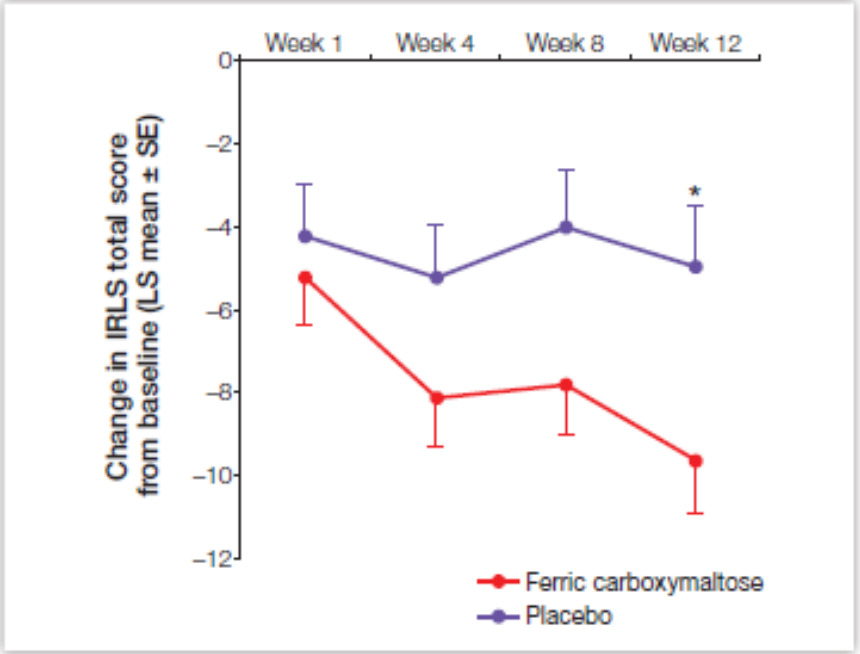
[a] Dichotomous variable of improvement.
* Two-tailed *p*-value, 95% confidence interval.

Wang et al, Sleep Med, 2008

Patients with moderate to severe RLS with ferritin <75 ng/ml (mean=45)

IV ferric carboxy maltose 1000 mg x 1

Figure 1. Changes in IRLS sum score over time



*P=0.021

Trenkwalder et al, Movt Dis, 2017

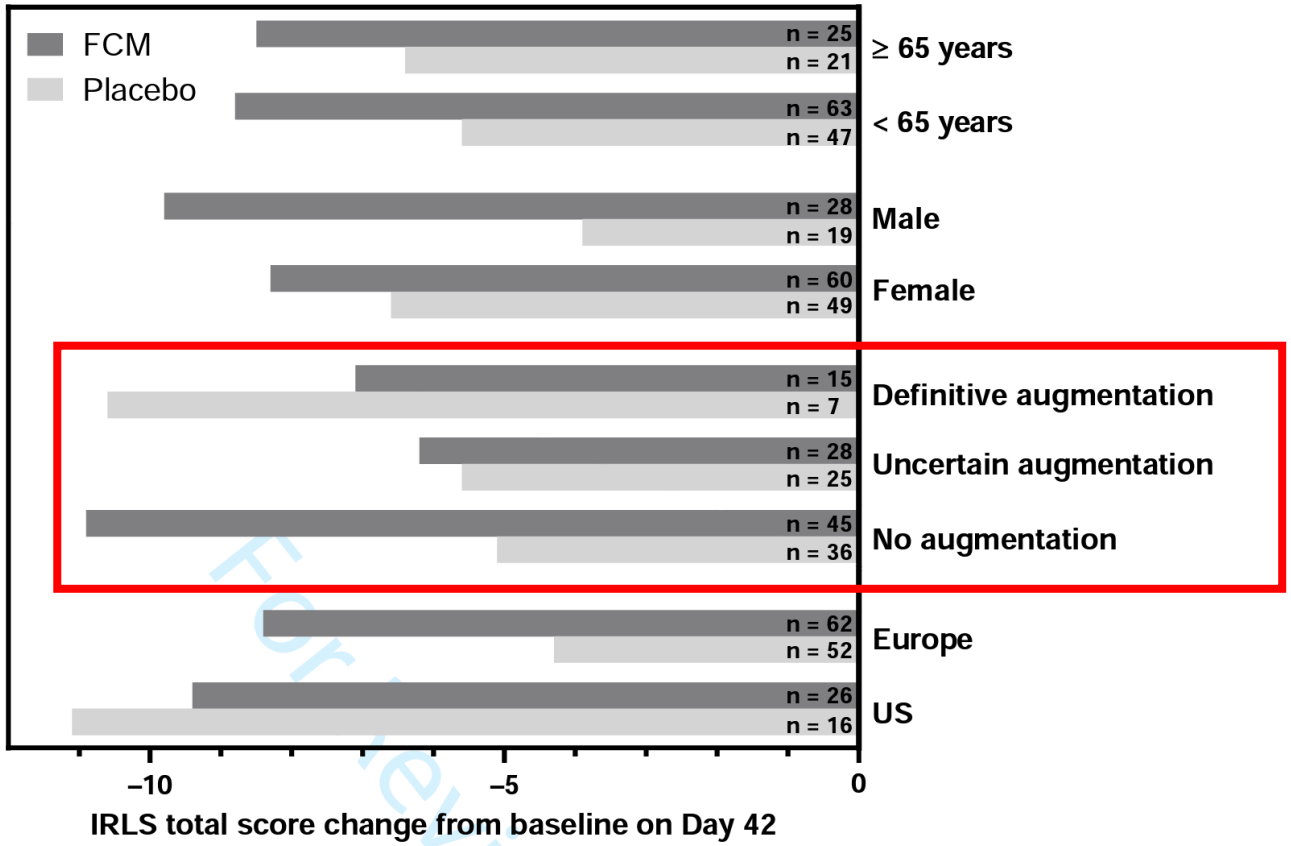
Guideline for IV iron in RLS

Oral or IV iron if serum ferritin ≤ 75 ng/mL or transferrin saturation < 20%

IV iron (not PO iron) if serum ferritin is between 75-100 ng/mL

Winkelman et al, JCSM, 2024

Efficacy of IV iron may depend on augmentation status

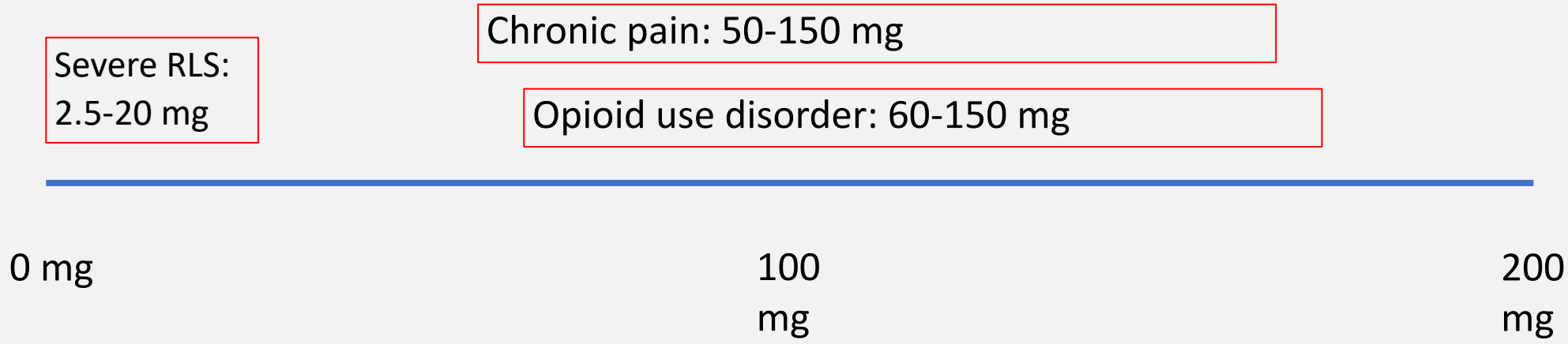


Earley et al, SLEEP, 2024

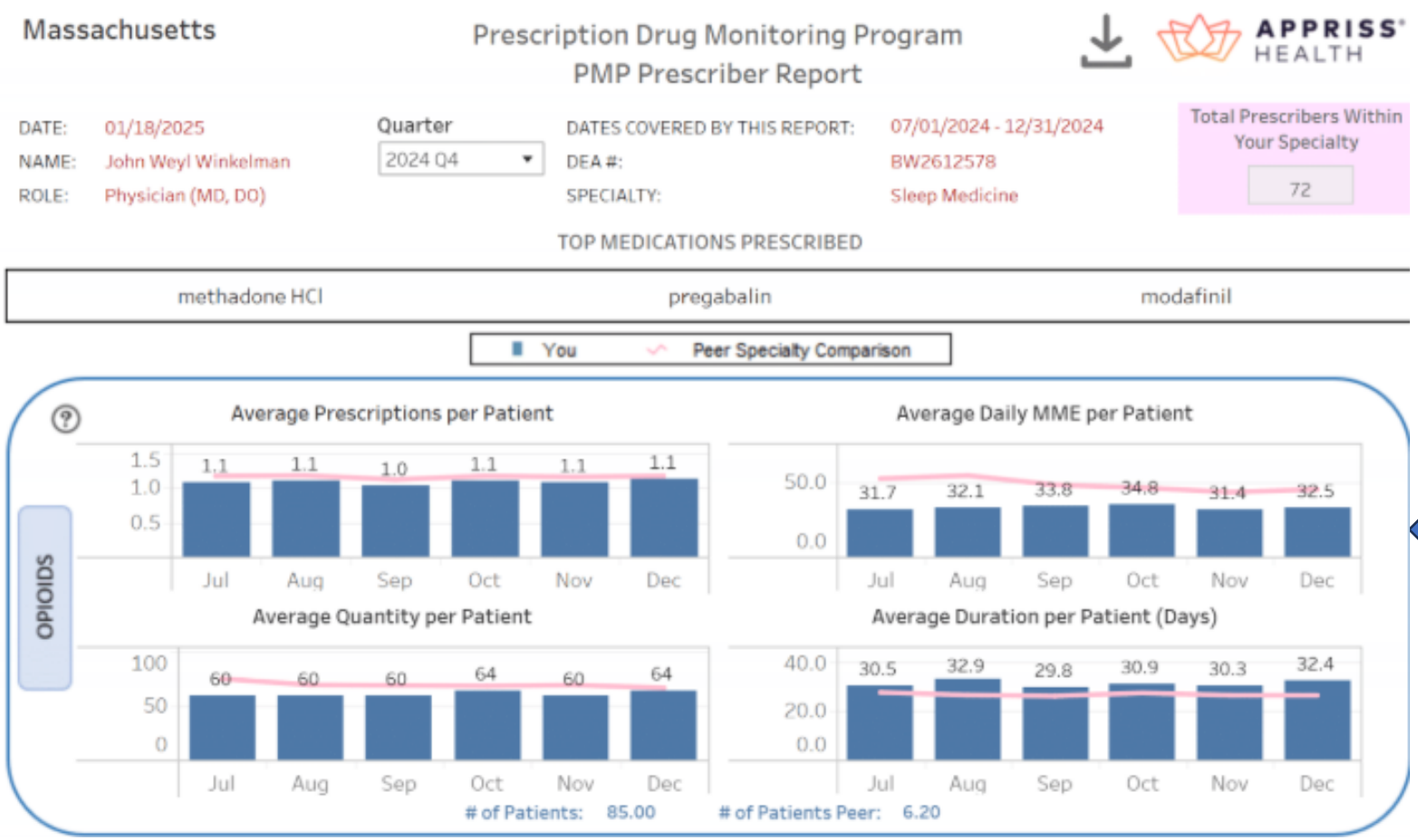
Low- dose opioids for treatment-resistant/augmented RLS

Drug	Starting Total Daily Dose	Usual Effective Total Daily Dose
Tramadol (immediate release or ER)	50 Mg (100 mg ER)	100-200 mg
Codeine	30 mg	60-180 mg
Morphine CR	10-15 mg	15-45 mg
Oxycodone (immediate release or ER)	5-10 mg	10-30 mg
Hydrocodone (immediate release or ER)	10-15 mg	20-45 mg
Methadone	2.5-5 mg	5-20 mg
Buprenorphine hydrochloride / Naloxone (sublingual film or tablet)	0.5-1mg	0.5-6 mg

Opioid doses in RLS are very low (eg methadone)



My PDMP opioid report for 10/2023-4/2024



MME average=32 daily

(Methadone=8.0 mg

Oxycodone=20 mg)

WHO should *not* prescribe opioids (the 3 C model)?

- CARELESS
- CORRUPT
- COMPROMISED (BY IMPAIRMENT)

"Physicians, like all people, are subject to temptations, aversions, errors in judgment, and missteps."

Between a Rock and a Hard Place: Can Physicians Prescribe Opioids to Treat Pain Adequately While Avoiding Legal Sanction?
Kelly K. Dineen and James M. DuBois

Before prescribing an opioid for RLS:

1. Opioid Risk Tool
2. Check Prescription Monitoring Programs
3. Urine toxicology screen (if concerns)
4. Opioid contract

Opioid Risk Tool

This tool should be administered to patients upon an initial visit prior to beginning opioid therapy for pain management. A score of 3 or lower indicates low risk for future opioid abuse, a score of 4 to 7 indicates moderate risk for opioid abuse, and a score of 8 or higher indicates a high risk for opioid abuse.

Mark each box that applies	Female	Male
Family history of substance abuse		
Alcohol	1	3
Illegal drugs	2	3
Rx drugs	4	4
Personal history of substance abuse		
Alcohol	3	3
Illegal drugs	4	4
Rx drugs	5	5
Age between 16—45 years	1	1
History of preadolescent sexual abuse	3	0
Psychological disease		
ADD, OCD, bipolar, schizophrenia	2	2
Depression	1	1
Scoring totals		

Risk:

Low= 0-3

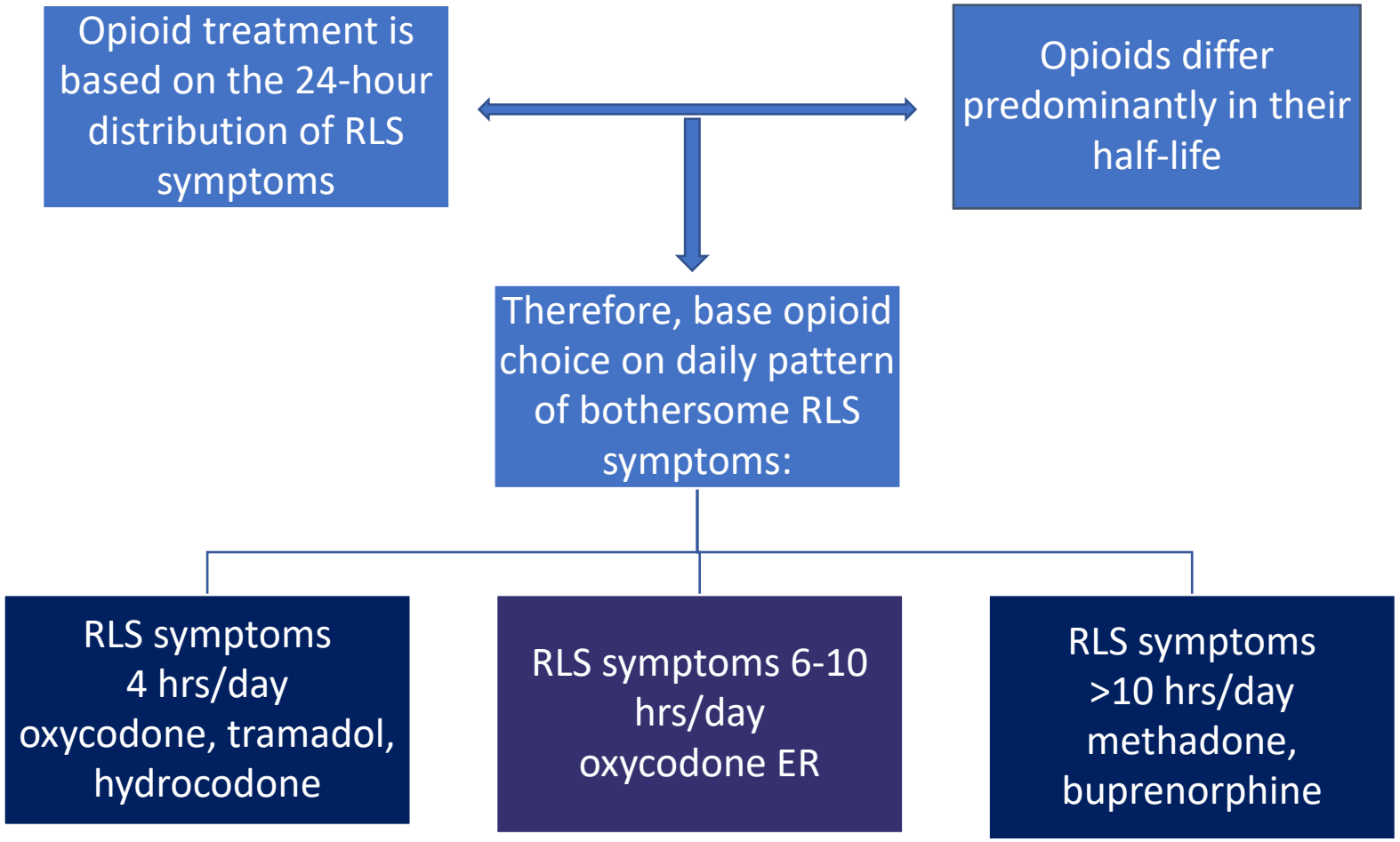
Moderate= 4-7

High= >8

Writing an opioid RX

- “For chronic RLS pain”
- You do not need an X license for buprenorphine RX
- Write 3 one-month RXs with sequentially spaced start dates

My Guidance for Opioid Treatment of Augmented or Treatment-Resistant RLS



Winkelman JW. *Chest*. 2022;162(3):693-700.

Opioids have a variety of potential side effects

- Constipation (most everyone, usually manageable)
- Sleepiness (TST is increased, daytime napping may be present)
- Itching (usually not a substantial issue)
- Nausea (usually at initiation, can be managed with Zofran)
- Sweating (can be severe, check testosterone levels in men)
- Central sleep apnea (do PSG for those with sleepiness, witnessed events)

Central sleep apnea with low-dose opioids?

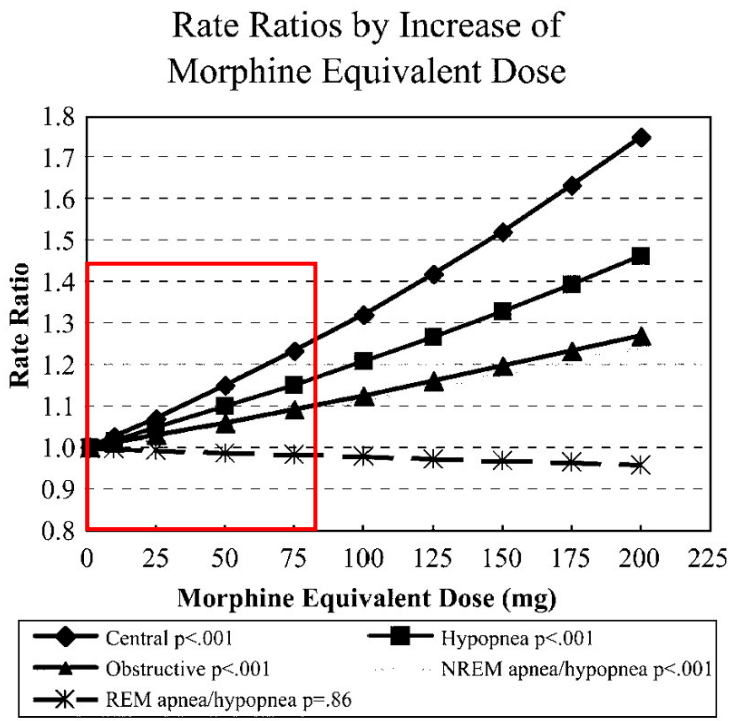


Figure 1—Rate ratio for morphine dose equivalent and obstructive apnea, central apnea, and hypopnea indexes; all adjusted for weight, sex, and age. REM refers to rapid eye movement sleep; NREM, non-rapid eye movement sleep.

Walker et al, JCSM, 2007

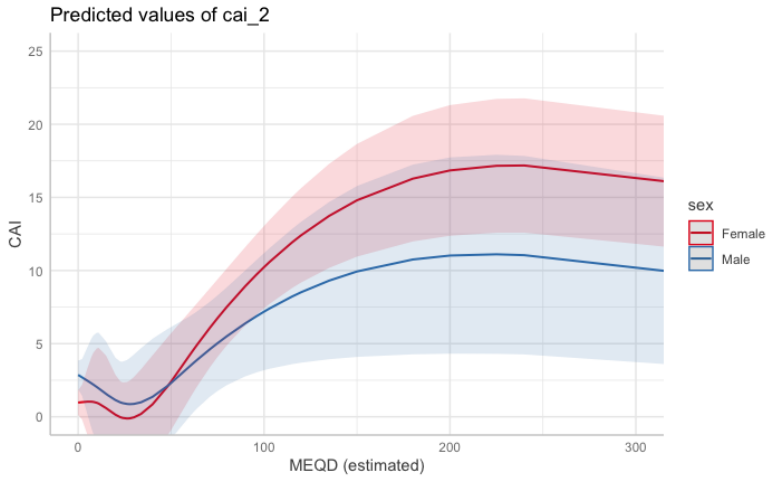
Mean MME=30

Table 3. Least Squares Means Comparing Those Using Opioids Versus Not Using Opioids for PSG Parameters of Interest, Adjusted for Age, Sex, BMI, Benzodiazepine Use, HF, Atrial Fibrillation, and Matching Group

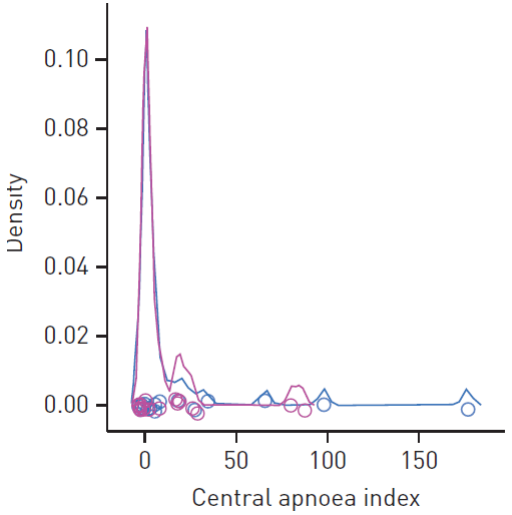
	Opioids	No opioids	P-value
Total AHI (events/hour)	29 (24–35)	29 (24–35)	.997
NREM AHI (events/hour)	24 (19–31)	24 (19–31)	.988
Central apnea index (events/hour)	2.8 (1.7–4.0)	1.7 (0.9–2.6)	.001 *
SpO_2 ≤ 88% (%TST)	5 (3–6)	3 (2–4)	.013 *
Minimum SpO_2 (%)	79 (76–81)	81 (78–83)	.022 *

Data are reported as least squares mean (95% CI).
*Benjamini & Hochberg adjusted p-value ≤ 0.05.

Orr et al, SLEEP, 2024



Orr et al, SLEEP, 2024



Farney et al, Eur Res J, 2013

RESEARCH ARTICLE

Long-term Safety, Dose Stability, and Efficacy of Opioids for Patients With Restless Legs Syndrome in the National RLS Opioid Registry

John Weyl Winkelman, MD, PhD, Benjamin Wipper, BA, and Jordana Zackon, BA

Neurology® 2023;100:e1520-e1528. doi:10.1212/WNL.0000000000206855

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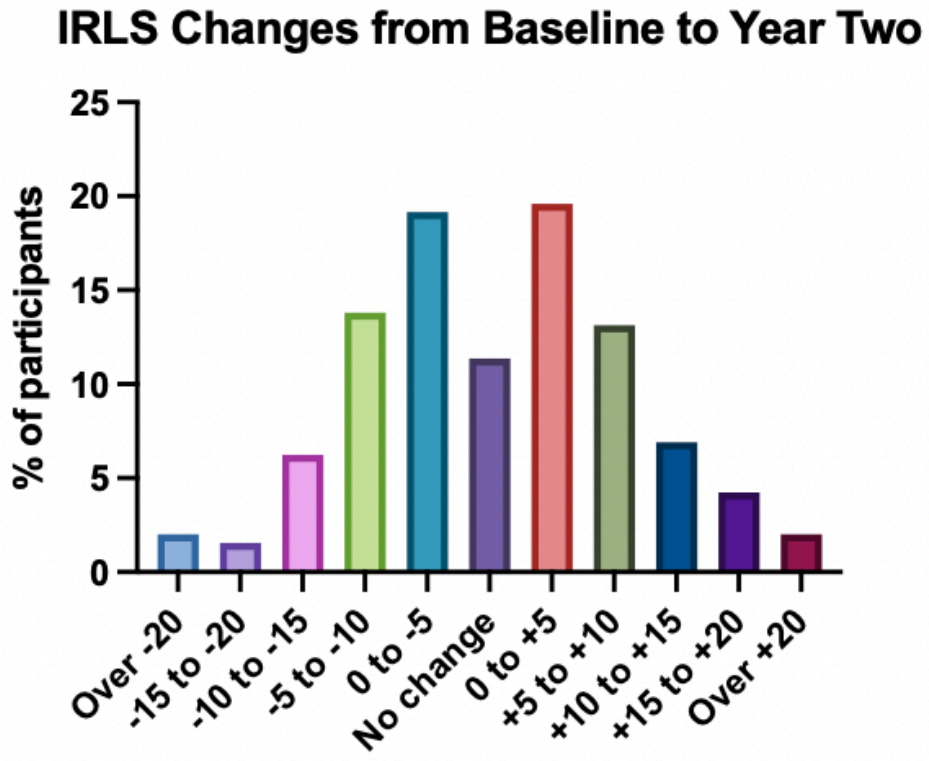
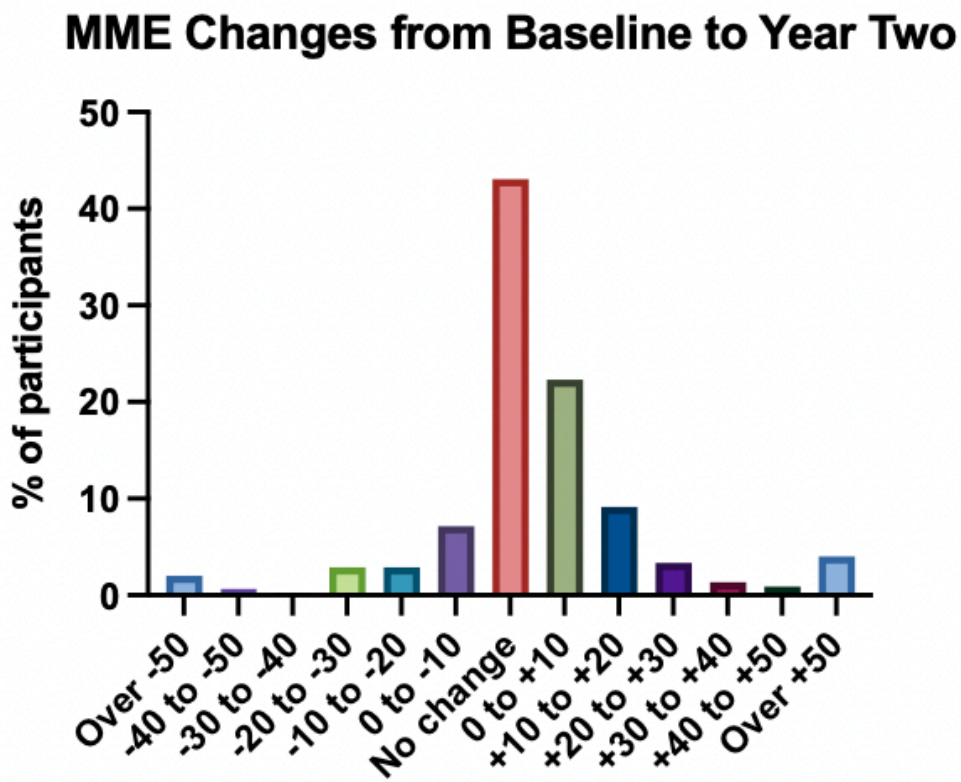
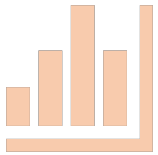


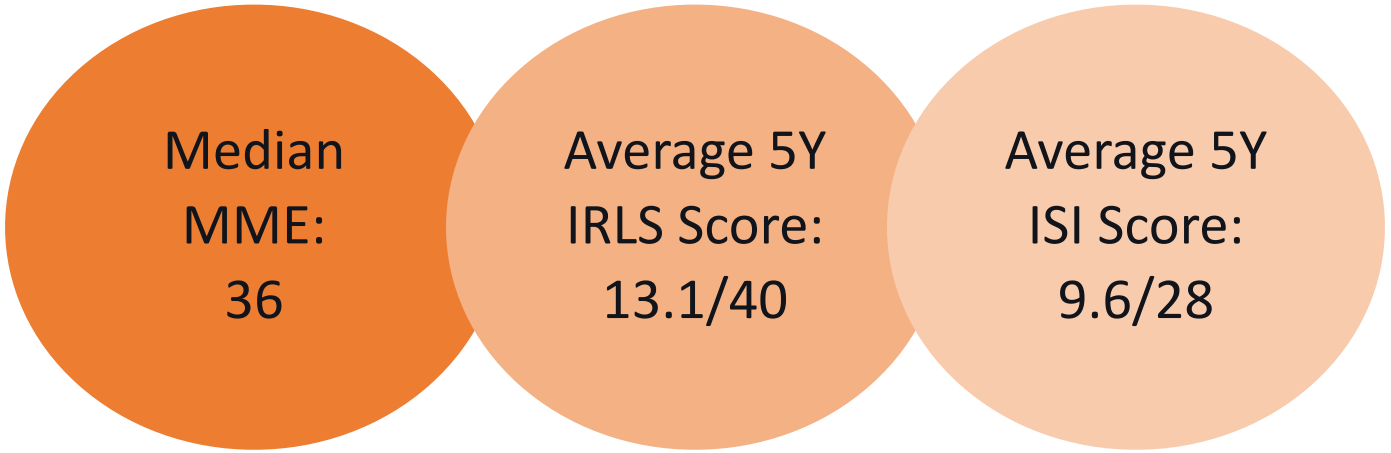


5-Year Data from the National RLS Opioid Registry (n=410):



Opioid Dose Changes (BL to 5Y)

- 29.8% of participants remained on the same dose
- 51.0% of participants increased their dose (median dose increase=15 MME)
- 19.3% of participants decreased their dose (median dose decrease=12.5 MME)



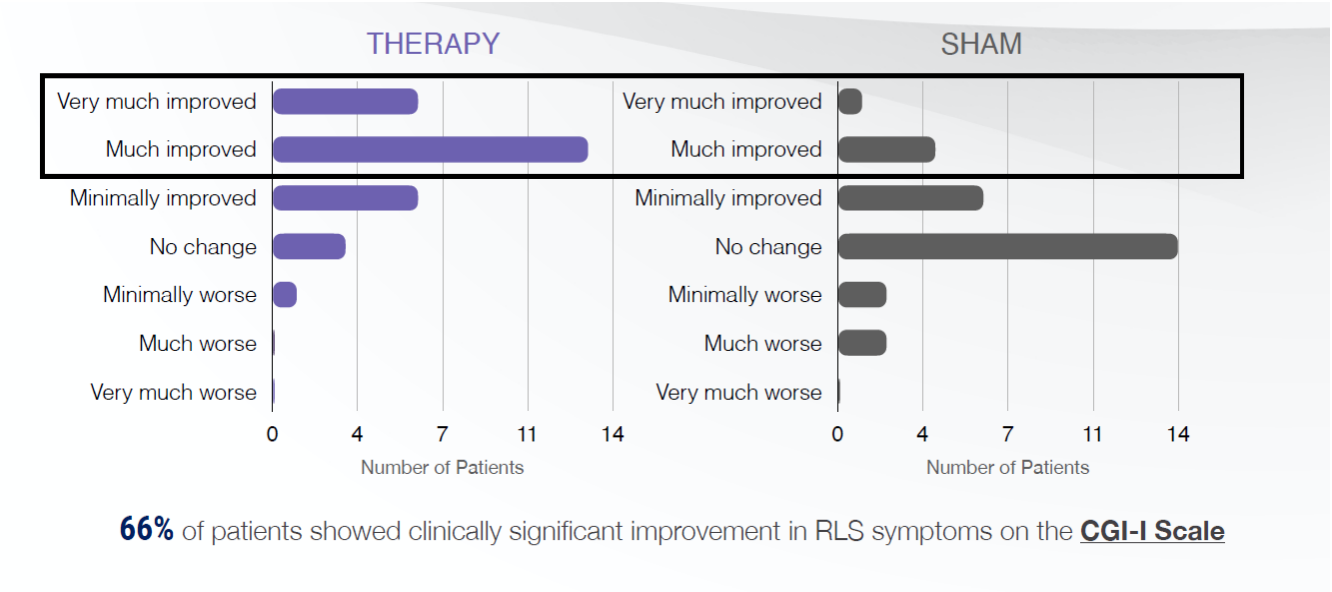
Opioid access is frequently an issue and a concern

Dr. Winkelman, I would love to become a participant again in the opioid registry study. However, the last two sleep doctors have refused to give me opioids and insisted I take other medications which do not work as well. I now live in Chandler AZ and can't find any provider who will help. I also suffer from severe arthritis in my back and several joints and find it almost cruel to deny an 84 year old woman pain relief.

Sent from my iPad

Neurostimulation treatments for RLS are coming

- **High frequency peroneal nerve stimulation**
- Spinal cord stimulation
- Transcutaneous spinal direct current stimulation
- Transcranial magnetic stimulation (TMS)
- Deep brain stimulation (DBS)
- Transcutaneous electrical nerve stimulation (TENS)
- Vibratory stimulation (pneumatic, other)
- Near-infrared stimulation (NIRS)
- Acupuncture
- Exercise

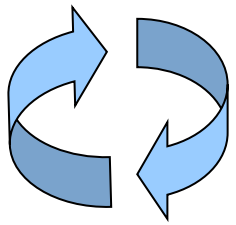


Buchfuhrer et al, 2021, JCSM

Augmentation is the primary challenge currently facing clinicians treating RLS

- Many MDs increase the DA dose when RLS symptoms worsen…but that is just a temporary fix
- Because augmentation continues and in fact…is more likely with higher doses of DA medications
- **PUTTING OUT FIRE WITH GASOLINE!**

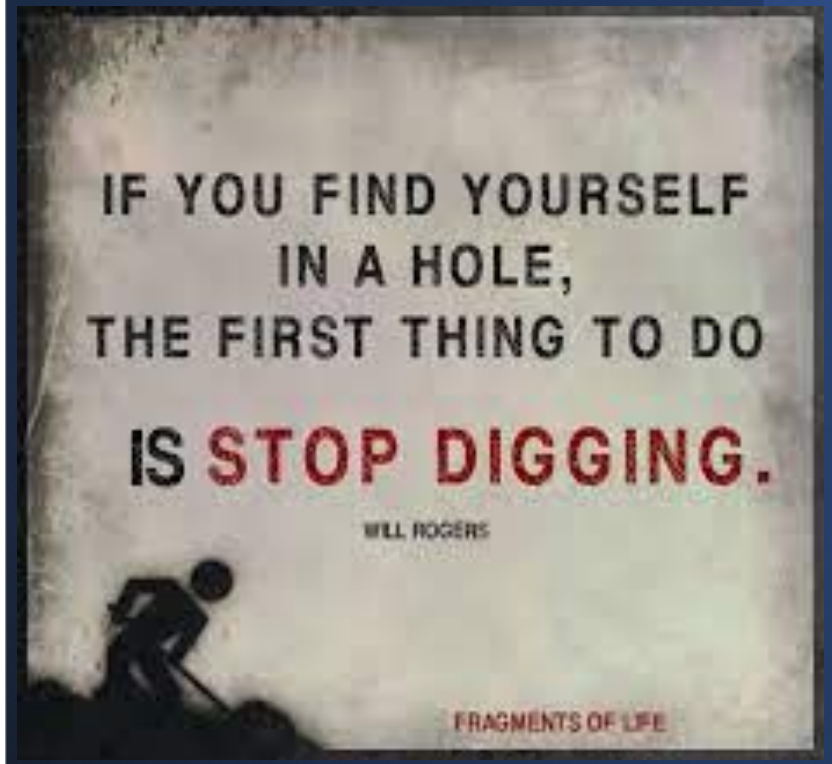
Increased DA doses



RLS worsening due to augmentation

If approaches to mild augmentation are not effective in reducing RLS symptoms or preventing the evolution of augmentation…

<u>…a more radical change is indicated</u>

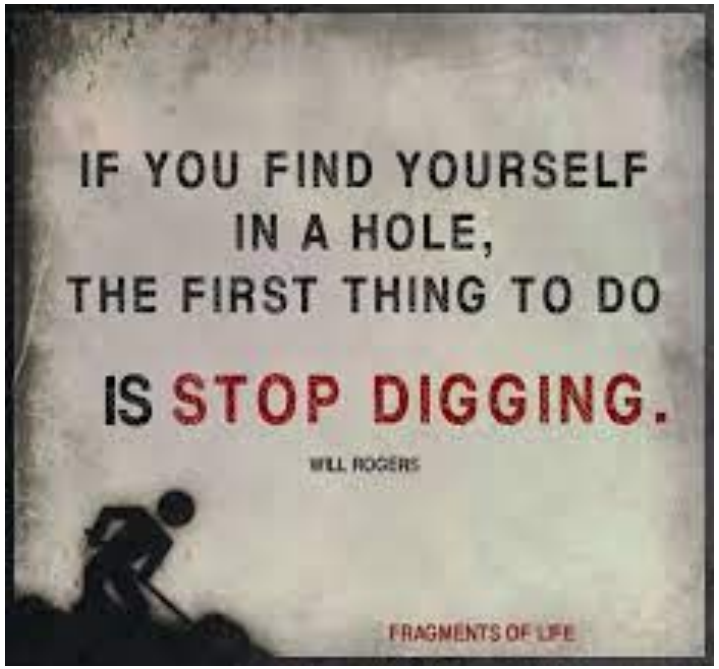


They will need to stop the DA…..
…but it needs to be done VERY SLOWLY and only AFTER ADDING A SECOND RLS MEDICATION

Medication approaches to mild augmentation

- Administer DA earlier or split the same (or increased) dose
- Switch short-intermediate acting DA to long-acting agent (extended release pramipexole, ropinirole, or rotigotine patch)
- Keep the DA dose below FDA limits

- Oral or IV iron trial
- Add gabapentin/gabapentin enacarbil/ pregabalin to maintain low dosage of DA



If approaches to mild augmentation are not effective in reducing RLS symptoms or preventing the evolution of augmentation…

…a more radical change is indicated

How to switch from dopamine agonist

to either

gabapentin/pregabalin/ gabapentin enacarbil (A2Ds)

OR

an opioid

1. **FIRST Add the replacement drug and identify its optimal dose**

2. **ONLY then gradually reduce dose of the dopamine agonist (over 3-12 months)**

Augmentation management plan (in order)

1. Correct any underlying exacerbating factors (iron, OSA, meds)
2. Add and maximize A2D to tolerable dose
3. DA taper as much as possible (SLOWLY)
4. Add opioid to A2D if unable to taper off DA completely
5. Continue DA taper to discontinuation (if possible)
6. Taper A2D as possible if opioid is present

ORIGINAL ARTICLE

How effective are treatment guidelines for augmented RLS?

OXFORD

Sleep Research Society®

SLEEP, 2022, 1–10

https://doi.org/10.1093/sleep/zsac108
Advance Access Publication Date: 9 May 2022
Original Article

Jonathan Yeung Laiwah[1] and John W. Winkelman[2,*]

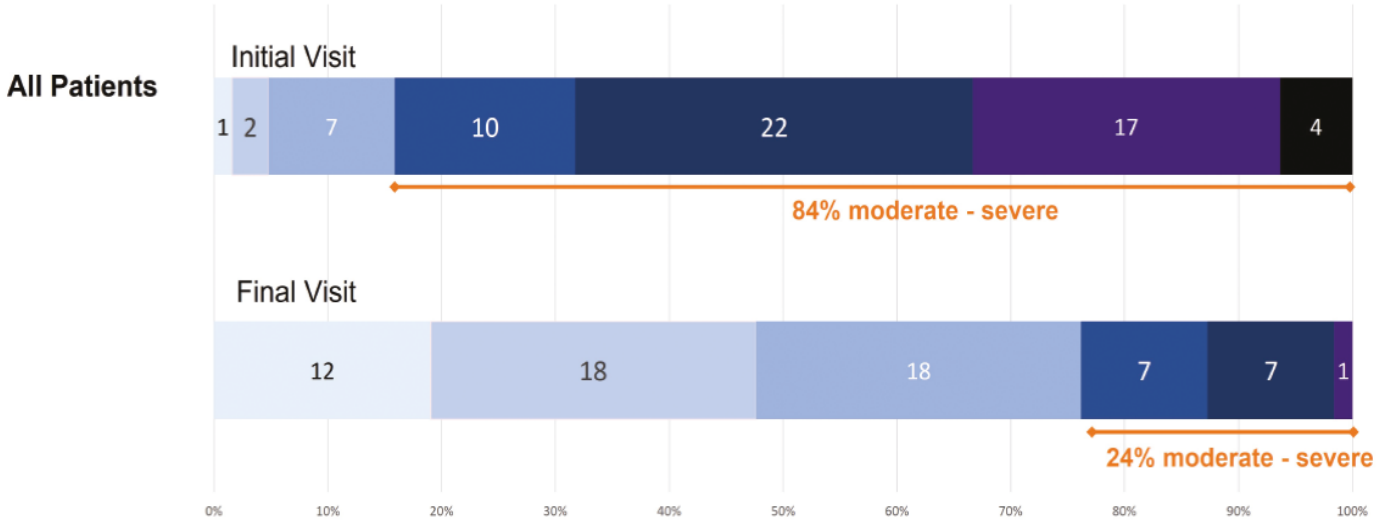
First published evaluation of RLS clinical treatment guidelines for augmentation:

<u>Baseline</u>:

Duration of prior DA treatment = 11.6yrs

DA mean dose = 1.25 mg

Mean time to DA discontinuation= 9 months (0.3 mg/month)



<u>Guideline based treatment efficacy</u>:

78% of severely augmented RLS patients were <u>Very Much or Much Better</u> after a mean follow-up of 29 months.

CHEST® JOURNAL

SLEEP: HOW I DO IT | VOLUME 162, ISSUE 3, P693-700, SEPTEMBER 01, 2022

Treating Severe Refractory and Augmented Restless Legs Syndrome

John W. Winkelman, MD PhD

Published: May 21, 2022 • DOI: https://doi.org/10.1016/j.chest.2022.05.014 •

RLS CURBSIDE (rlscurbside.org)

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RLS curbside

RESTLESS LEGS SYNDROME

An online discussion board for healthcare practitioners

The mission of RLS Curbside is to help optimize management of complicated RLS patients by providing a ***free***, ***HIPAA-compliant***, provider-to-provider forum, ***independent of any commercial influence***.

This tool will enable healthcare providers to confidently treat RLS with the most efficacious, evidence-based, personalized treatments for their patients.

Conclusions

- Correct underlying contributors to RLS
- Initial treatment with calcium channel α2δ ligand or iron unless there are contraindications (ie use dopamine agonist as 3rd line treatment)
- IF you use DA, keep dosages within the FDA RLS-approved range and be vigilant for augmentation

- Goal for augmented patients is to eventually discontinue DA
- Achieve this by first **ADDING** the substituting medication **BEFORE** slowly tapering the DA