Supernus Pharmaceuticals

Overview Presentation

September 2020

Supernus® Pharmaceuticals

Safe Harbor Statement

This presentation and other matters discussed today or answers that may be given to questions asked include forward-looking statements within the meaning of the federal securities laws. These statements, among other things, relate to Supernus' business strategy, goals and expectations concerning its product candidates, ability to integrate the acquired portfolio into its infrastructure, future operations, prospects, plans and objectives of management. The words "anticipate", "believe", "could", "estimate", "expect", "intend", "may", "plan", "predict", "project", "will", and similar terms and phrases are used to identify forward-looking statements in this presentation. Supernus' operations involve risks and uncertainties, many of which are outside its control, including the potential impact of COVID-19, and any one of which, or a combination of which, could materially affect its results of operations and whether the forward-looking statements ultimately prove to be correct. Supernus assumes no obligation to update any forward-looking statements except as required by applicable law.

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Supernus® Pharmaceuticals

Proven Execution in CNS & ADHD

20+ Years of CNS experience including Four Programs in ADHD

2005 to Present	Supernus® Pharmaceuticals	Trokendi XR® (topiramate) extended-release capsules Oxtellar XR® (oxcarbazepine) extended-release tablets	SPN-812 SPN-830 SPN-820 SPN-817
1997 to 2005	Shire	ADDERALL XR® CII 5 mg, 10 mg, 15 mg, 20 mg, 25 mg, 30 mg CAPSULES (Mixed Salts of a Single-Entity Amphetamine Product) Dextroamphetamine Sulfate Dextroamphetamine Saccharate Amphetamine Aspartate Monohydrate Amphetamine Sulfate intuniv® (guanfacine) Extended Release Tablets 1 • 2 • 3 • 4 mg	Mydayis® CII (mixed salts of a single-entity amphetamine product) 12.5 | 25 | 37.5 | 50 mg extended-release capsules Carbatrol® carbamazepine EXTENDED-RELEASE capsules 100 mg · 200 mg · 300 mg

For several years, and prior to becoming independent in 2005, Supernus operated as Shire Laboratories, Inc., a division of Shire.
SPN-812, SPN-830, SPN-820, and SPN-817 are product candidates in various stages of development.
All trademarks are the property of their respective owners

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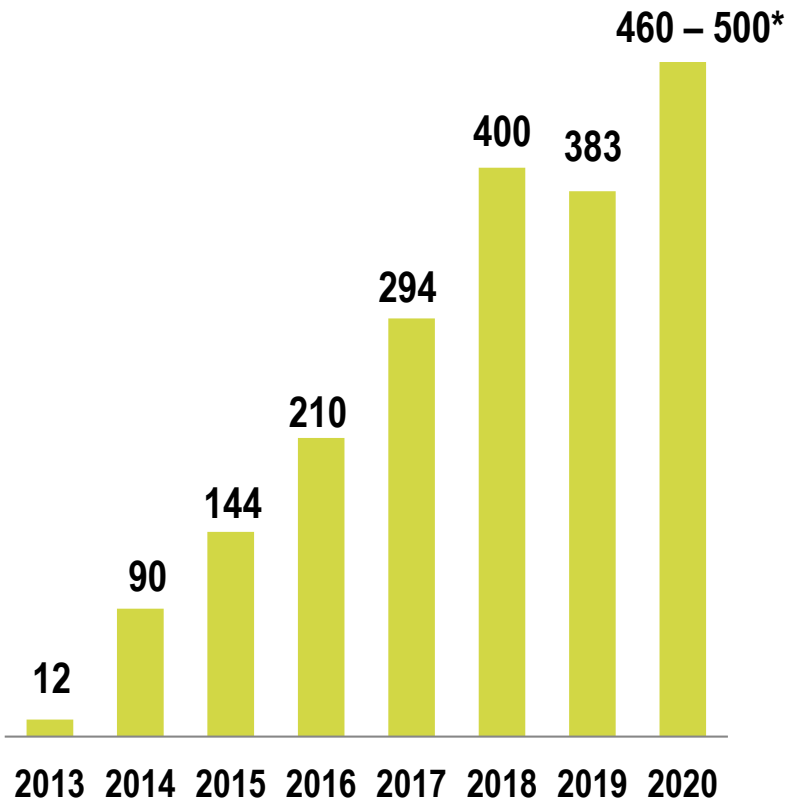
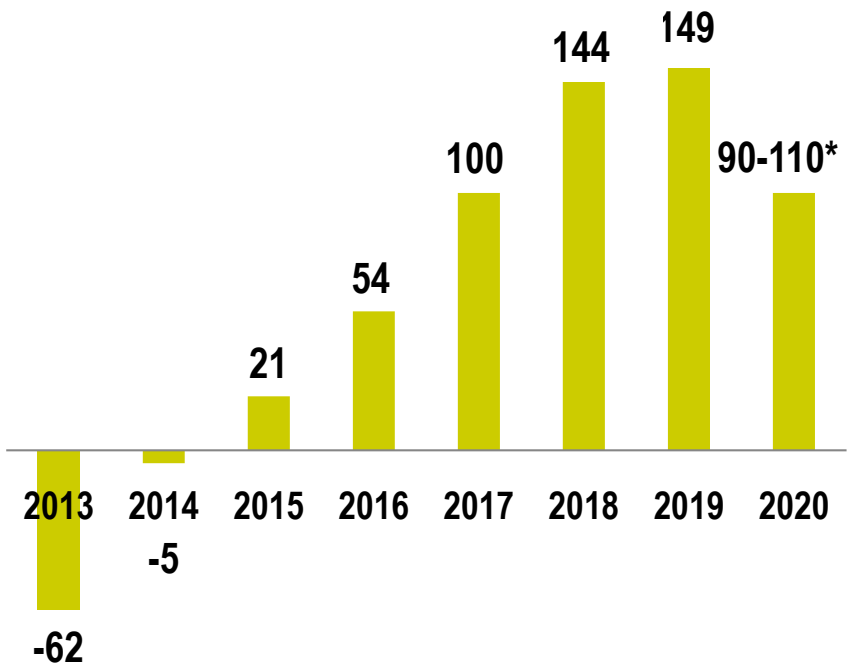
Sales and Operating Earnings Performance

Total Net Product Sales ($ Millions)



Total Operating Earnings ($ Millions)



Year-end 2018 inventory build by distribution channel increased 2018 net sales by approximately $10 million and negatively impacted 2019 net sales.
*Financial guidance provided August 18, 2020 and which has not been updated

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Portfolio of Five Marketed Products

Epilepsy	Migraine	Parkinson's	Cervical Dystonia Sialorrhea
ONCE-DAILY Trokendi XR® (topiramate) extended-release capsules	ONCE-DAILY Trokendi XR® (topiramate) extended-release capsules	APOKYN® apomorphine hydrochloride injection	MYOBLOC® rimabotulinumtoxinB Injection [5,000 Units/mL]
ONCE-DAILY Oxtellar XR® (oxcarbazepine) extended-release tablets		XADAGO® (safinamide) tablets	

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Robust Pipeline For Future Growth

Product	Indication	Development	NDA	Market
SPN-812	ADHD		2019*	2H 2020
SPN-830	Parkinson's		4Q 2020	2H 2021
SPN-812	Adult ADHD	Phase III		
Myobloc	Neurological Disorders	Phase IV		
SPN-820	Depression	Phase I		
SPN-817	Severe Epilepsy	Phase I		

*PDUFA November 8, 2020

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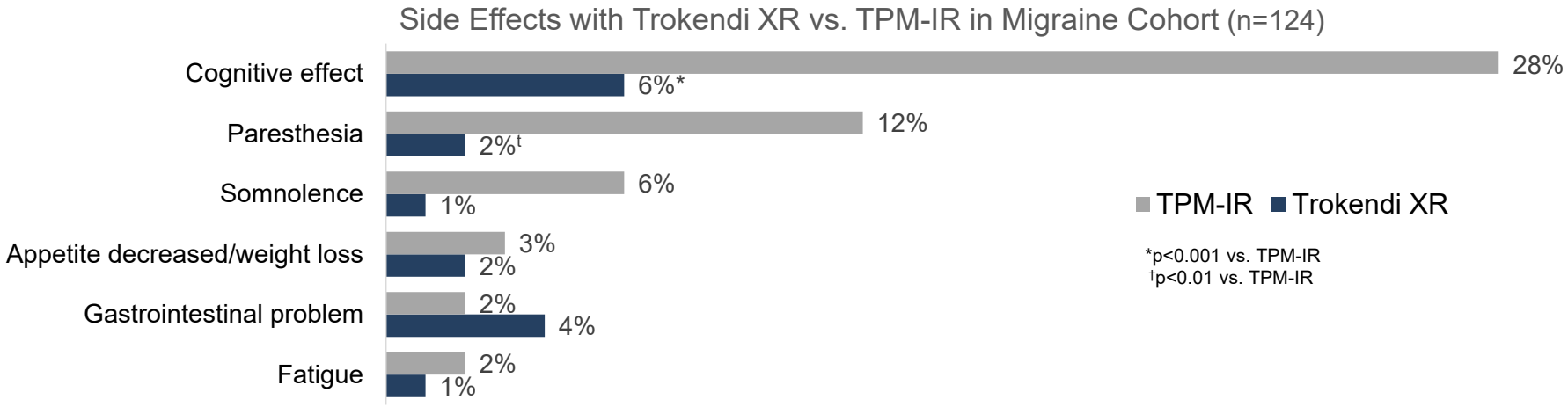
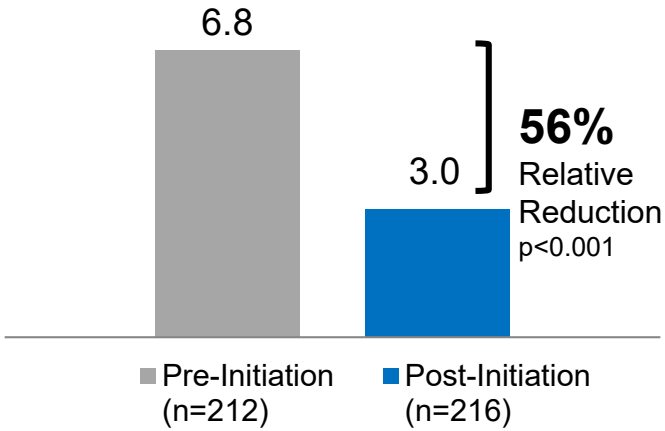
Trokendi XR

More Favorable Clinical Outcomes Compared to TPM-IR[1]





Median Monthly Migraine Frequency
Pre- vs. Post-Initiation of Trokendi XR

[1] O'Neal W et al. Cognitive tolerability and health outcomes with Trokendi XR (extended-release topiramate) in migraineurs. J Pain 2017; 18(4): S67.
Retrospective Medical Chart Review TPM-IR = Topiramate immediate release

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Trokendi XR

Use in Clinical Practice – A Pragmatic Assessment[1]

Responder Rate	% of Patients
≥ 50% Reduction	55
≥ 75% Reduction	41
100% Reduction	24

* Responder Rate: percent change from pre-index migraine frequency associated with Trokendi XR treatment (n=159)

[1] O'Neal W et al. Pragmatic assessment of Trokendi XR (extended-release topiramate) in migraine prevention. Poster presented at 59th Annual Scientific Meeting of the American Headache Society, June 2017

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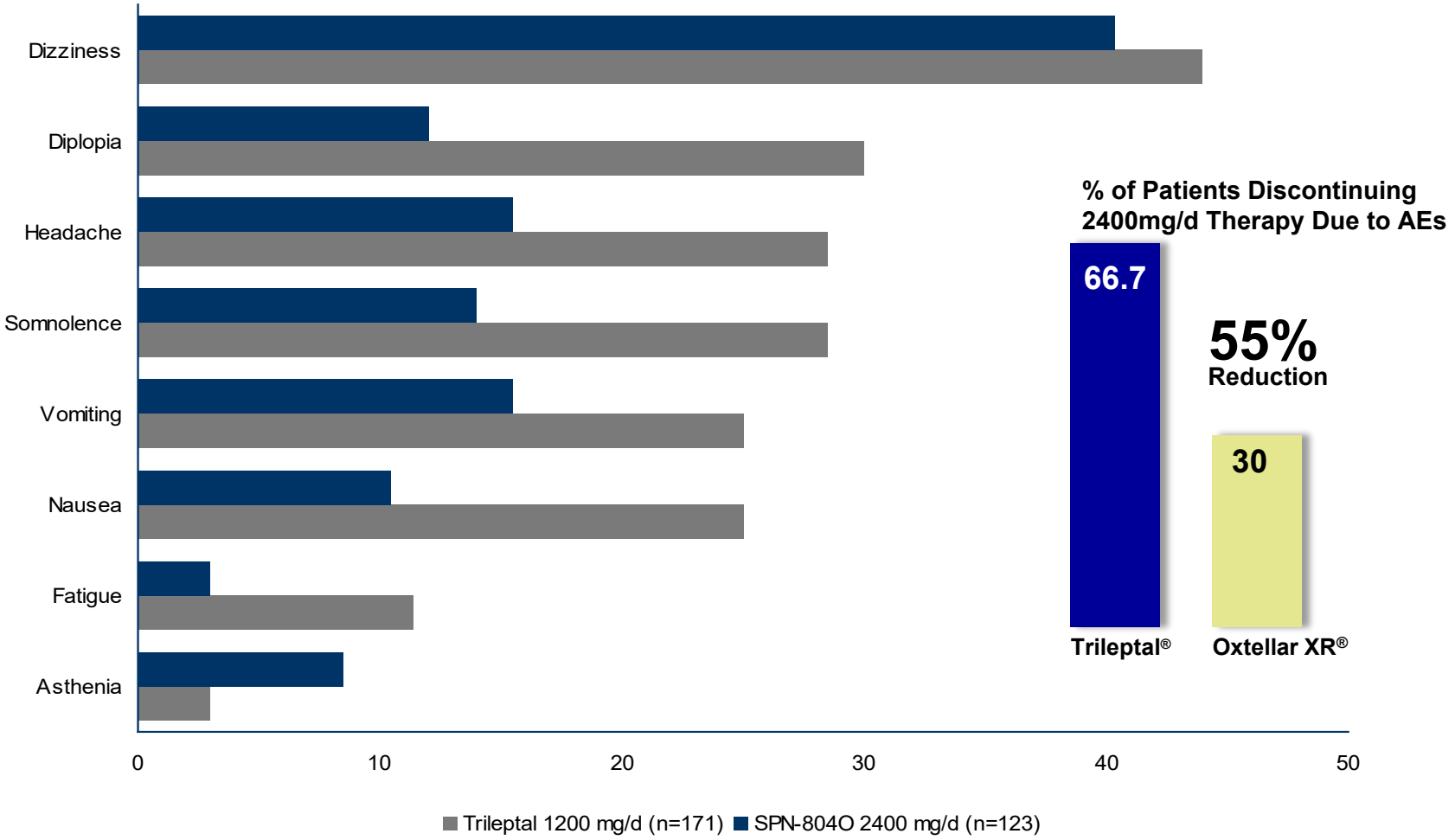
Oxtellar XR

Improved Adverse Event Profile at Double the Dose of Trileptal®



Based on comparison of Oxtellar XR (SPN-804O) Phase III vs. Trileptal PI (adjunctive therapy study in adults); differences in trial design exist between the two studies. Dizziness includes vertigo in Trileptal group because of change in the MedDRA system

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Parkinson's Disease (PD) Market

- U.S. PD Market is anticipated to grow from $1.5B to $6.2B by 2026[1]
- Second most common chronic progressive neurodegenerative disorder, affecting 1-2% of individuals 65 years and older[2]
- ~1M U.S. PD patients (2020), ~2.5%[1] annual growth rate
- PD occurs when cells in the brain, which produce dopamine, become impaired or die
- The mainstay for therapy is levodopa with effectiveness wearing off resulting in "OFF" periods
- As PD advances, patients experience more "OFF" periods

1. Global Data Parkinson's Disease Global Drug Forecast and Market Analysis 2026
2. Saxton JM. Exercise and Chronic Disease: an Evidence-Based Approach. London, Routledge, 2011

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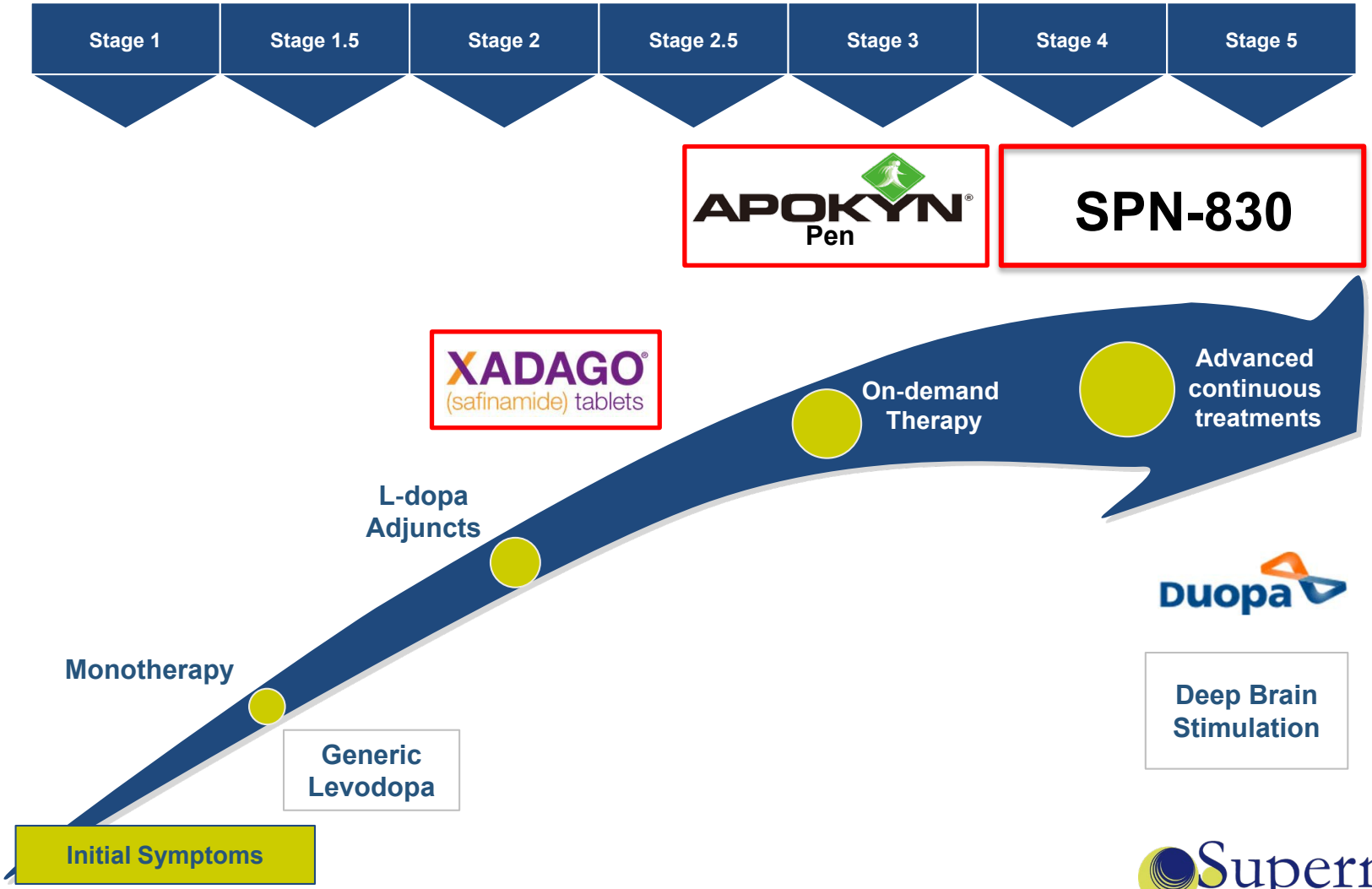
Addressing Patient Needs at Different Stages of Parkinson's Disease



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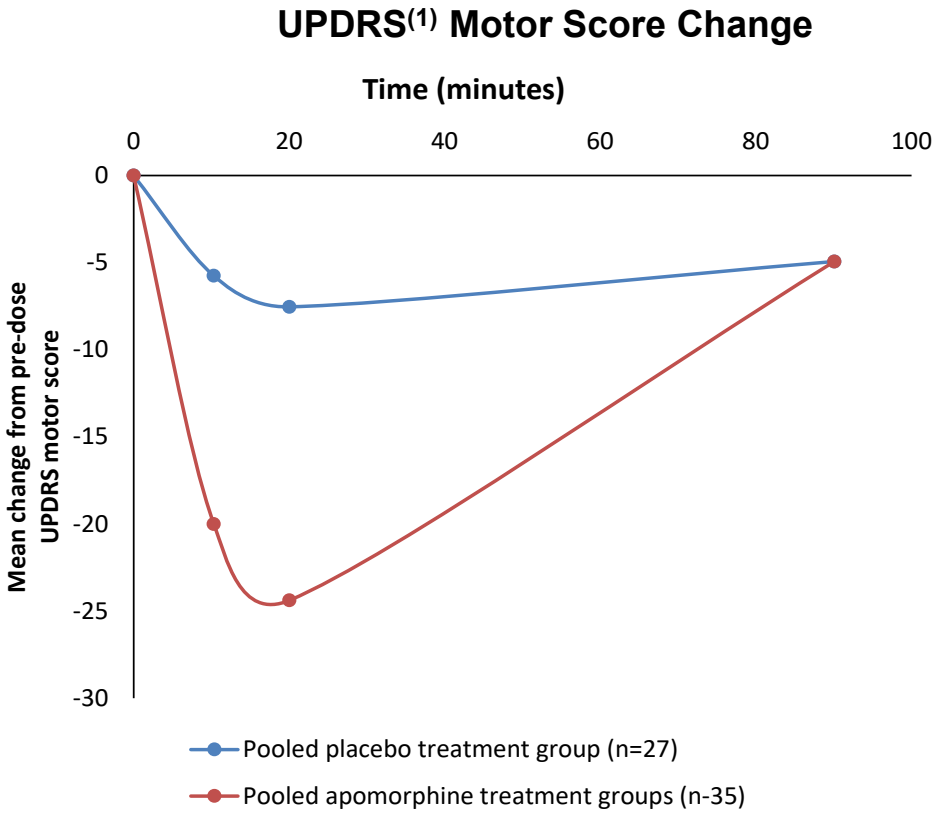
APOKYN® Pen

Apomorphine Delivered Through a Subcutaneous Injection

Acute Treatment of "OFF" Episodes in Advanced Parkinson's Disease

- **On average, peak response seen after 20 minutes, with a meaningful clinical effect seen from 4 minutes**
- At peak effect, the mean decreases from baseline in UPDRS motor scores were 24.2 points for the apomorphine group and 7.4 points for the placebo group ($p < 0.001$), a delta of -16.8 points
- Response to apomorphine was significantly better than placebo
- Successfully treated 95% of OFF episodes within 20 minutes



1- UPDRS = Unified Parkinson's Disease Rating Scale
Clinical Study Paper: Pfeiffer et al, Parkinsonism Relat Disord. 2007; 13:93-100.

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SPN-830
Novel Apomorphine Subcutaneous Injection Pump

- Expected launch in H2 2021
  - Eligible for Orphan Drug Designation and 7-year exclusivity
  - Non-invasive dopaminergic stimulation therapy for continuous treatment of ON-OFF episodes in PD

- Currently available options
  - Gastro-intestinal surgically implanted levodopa/carbidopa infusion
  - Deep Brain Stimulation

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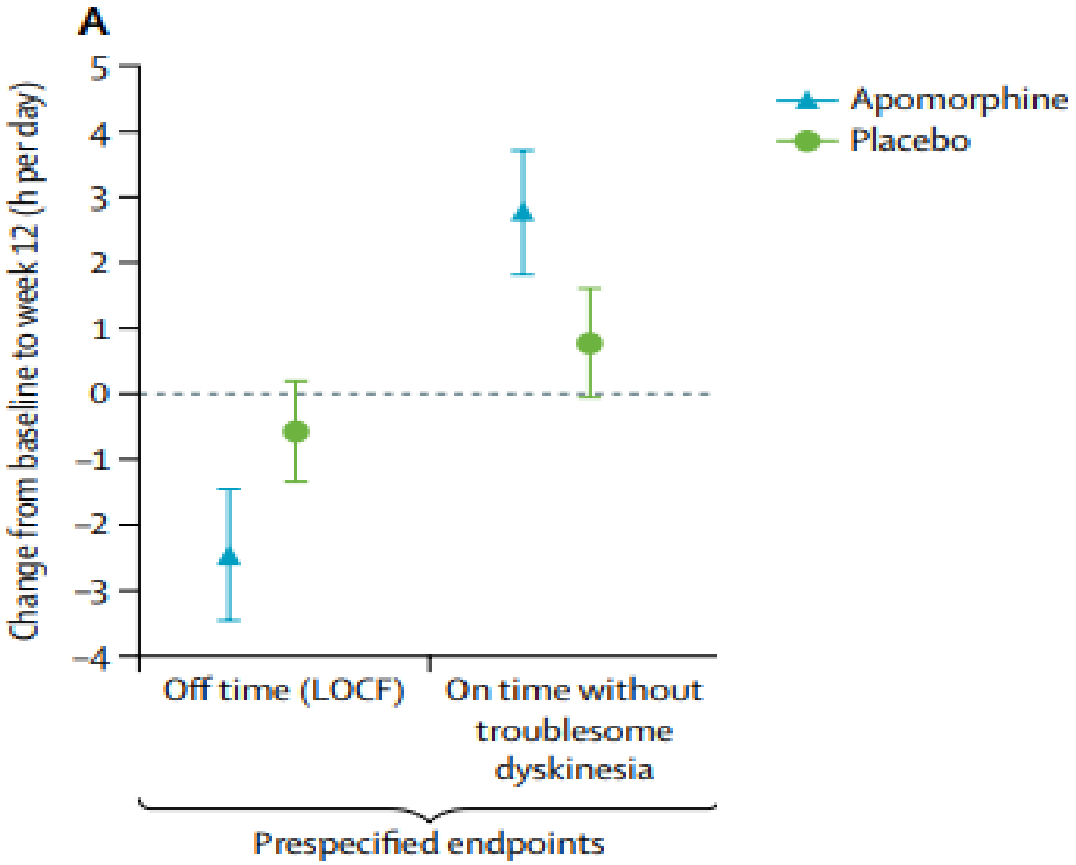
SPN-830
Novel Apomorphine Subcutaneous Injection Pump

TOLEDO Phase III Study Results



Primary Endpoint

SPN-830 demonstrated a 2.47 hours per day reduction in OFF time compared to placebo (0.58); p= 0.0025

Regina Katzenschlager et al, The Lancet Neurology. 2018;Vol 17(9):749-759

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SPN-812

Novel Non-Stimulant ADHD Product Candidate

- Viloxazine hydrochloride
  - Serotonin norepinephrine modulating agent (SNMA)
  - New Chemical Entity (NCE)
  - Previously marketed outside the US as an antidepressant
- Building strong IP with expirations from 2029-2033
- NDA under review by FDA with a PDUFA of November 8, 2020
- Phase III clinical data point to a well-differentiated ADHD product
  - 100mg, 200mg and 400mg in pediatric patients
  - Unique mechanism of action
  - Consistent & reliable efficacy with robust statistical significance
  - Efficacy on both Hyperactivity/Impulsivity and Inattention
  - Fast onset of action
  - Well tolerated

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SPN-812
Significant Market Opportunity

	Percent	Estimated Prescriptions in Peak Year
ADHD Market Prescriptions		**89 - 100 Million**
	Peak Market Share	**SPN-812 Potential Prescriptions**
SPN-812 Peak Demand	**5 - 10%**	**4.5 - 10.0 Million**

Source: IMS NPA, Company Research and Estimates – Assumes peak at 3-7 years post launch
Figures in the table above represent management's estimates that are subject to several factors that are beyond our control and actual results may be significantly different from our estimates

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SPN-820

Novel MOA for Treatment-Resistant Depression (TRD)

- Joint development and option agreement with Navitor Pharmaceuticals
- First-in-class selective brain mTORC1 activator
  - Binds to and modulates sestrin, a leucine amino acid sensor
- New chemical entity, long IP runway
- Early efficacy signal on HAMD-6 scale in TRD patients
  - Rapid onset of action (signal at 2 hours)
  - Meaningful effect sizes (>0.4 through 3 days on 1 dose)
- Significant market need & revenue potential
  - ~30% of MDD patients are treatment resistant

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Depression

- Chronic debilitating illness and a leading cause of disability
  - Low mood, feelings of guilt and worthlessness, low energy, problems with sleep, and other emotional and physical symptoms
- In severe cases, the disease can lead to suicide
- The prevalence of major depression is ~15 million in the U.S.
  - Approximately 5% to 8% of the adult population
- The treatment-resistant market is estimated at 5 million+ prescriptions a year
- Contributes significant costs, morbidity, and mortality

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Positioned For Long-Term Growth

Diversified Neurology Portfolio

Oxtellar XR® , Trokendi XR® , APOKYN®, MYOBLOC®, XADAGO®

Innovative Pipeline in CNS

SPN-812	**Potential Launch in 2020**
SPN-830	**Potential Launch in 2021**
MYOBLOC	**Neurological Disorders**
SPN-820	**Depression**
SPN-817	**Severe Epilepsy**

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Appendix

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SPN-812
Phase III Studies

	P301 N = 477	P303 N = 313	P302 N = 310	P304 N = 297
ADHD Patients	6-11 years	6-11 years	12-17 years	12-17 years
Daily Doses	100mg 200mg	200mg 400mg	200mg 400mg	400mg 600mg
Status	**Completed**	**Completed**	**Completed**	**Completed**

Randomized, double-blind, placebo-controlled, multicenter, parallel group, monotherapy for ADHD
Primary Endpoint - Change from baseline on ADHD-RS-5 scale compared to placebo

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SPN-812 Phase III Data: Primary Endpoint

P301 (Children)	Statistics	Placebo (N=155)	100 mg (N=147)	200 mg (N=158)
Week 6 (EOS)	LS Mean	-10.9	-16.6	-17.7
	p-value		0.0004	<.0001
P302 (Adolescent)	**Statistics**	**Placebo (N=104)**	**200 mg (N=94)**	**400 mg (N=103)**
Week 6 (EOS)	LS Mean	-11.4	-16.0	-16.5
	p-value		0.0232	0.0091
P303 (Children)	**Statistics**	**Placebo (N=97)**	**200 mg (N=107)**	**400 mg (N=97)**
Week 8 (EOS)	LS Mean	-11.7	-17.6	-17.5
	p-value		0.0038	0.0063
P304 (Adolescent)	**Statistics**	**Placebo (N=97)**	**400 mg (N=99)**	**600 mg (N=97)**
Week 7 (EOS)	LS Mean	-13.2	-18.3	-16.7
	p-value		0.0082	0.0712

Primary Analysis of ADHD-RS-5 based on Mixed Model for Repeated Measure (MMRM) Intent to Treat (ITT Population)
EOS = End of Study

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SPN-812 Phase III Data

Significant Reduction in Hyperactivity and Inattention

Analysis in ADHD-RS-5 Inattention and Hyperactivity/Impulsivity Subscales

P301 Week 6 (EOS)	Statistics	100 mg (N=147)	200 mg (N=158)
Hyperactivity/Impulsivity	p-value	0.0026	<.0001
Inattention	p-value	0.0006	<.0001

P302 Week 6 (EOS)	Statistics	200 mg (N=94)	400 mg (N=103)
Hyperactivity/Impulsivity	p-value	0.0069	0.0005
Inattention	p-value	0.0424	0.0390

P303 Week 8 (EOS)	Statistics	200 mg (N=107)	400 mg (N=97)
Hyperactivity/Impulsivity	p-value	0.0020	0.0039
Inattention	p-value	0.0087	0.0248

P304 Week 7 (EOS)	Statistics	400 mg (N=99)	600 mg (N=97)
Hyperactivity/Impulsivity	p-value	0.0484	0.2084
Inattention	p-value	0.0042	0.1392

EOS = End of Study

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SPN-812 Phase III Data: Fast Onset of Action

Efficacy Starting in Week 1 - ADHD-RS-5 Total Score

Pooled Data – P301, P302, P303, P304					P301	
Visit	**Statistics**	Placebo (N=452)	200 mg (N=359)	400 mg (N=299)	Placebo (N=155)	100 mg (N=147)
Baseline	Mean	41.8	42.9	41.8	43.6	45.0
Week 1	p-value		0.0003	0.0016		0.0004
Week 2	p-value		<.0001	<.0001		<.0001
Week 3	p-value		<.0001	<.0001		<.0001
Week 4	p-value		<.0001	<.0001		<.0001
Week 5	p-value		<.0001	<.0001		0.0006
Week 6	LS Mean	-11.7	-17.1	-17.7	-10.9	-16.6
	p-value		<.0001	<.0001		0.0004

- Common endpoint visit for all four studies is Week 6
- Pooled Data exclude 100 mg and 600 mg that were tested in one study only
- Primary Analysis of ADHD-RS-5 in Intent to Treat Population

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SPN-812 Phase III Data: Fast Onset of Action

Efficacy Starting in Week 1 - Inattention Subscale

Pooled Data – P301, P302, P303, P304					P301	
Visit	**Statistics**	Placebo (N=452)	200 mg (N=359)	400 mg (N=299)	Placebo (N=155)	100 mg (N=147)
Baseline	Mean	22.4	22.6	22.3	22.5	22.8
Week 1	p-value		0.0086	0.0162		0.0016
Week 2	p-value		0.0001	<.0001		0.0016
Week 3	p-value		<.0001	<.0001		0.0002
Week 4	p-value		<.0001	<.0001		<0.0001
Week 5	p-value		<.0001	<.0001		0.0018
Week 6	LS Mean	-6.4	-8.9	-9.2	-5.6	-8.6
	p-value		<.0001	<.0001		0.0006

- Common endpoint visit for all four studies is Week 6
- Pooled Data exclude 100 mg and 600 mg that were tested in one study only
- Primary Analysis of ADHD-RS-5 in Intent to Treat Population

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SPN-812 Phase III Data: Fast Onset of Action

Efficacy Starting in Week 1 - Hyperactivity/Impulsivity Subscale

Pooled Data – P301, P302, P303, P304					P301	
Visit	**Statistics**	Placebo (N=452)	200 mg (N=359)	400 mg (N=299)	Placebo (N=155)	100 mg (N=147)
Baseline	Mean	19.4	20.3	19.5	21.1	22.2
Week 1	p-value		<.0001	0.0010		0.0023
Week 2	p-value		<.0001	<.0001		<0.0001
Week 3	p-value		<.0001	<.0001		<0.0001
Week 4	p-value		<.0001	<.0001		0.0004
Week 5	p-value		<.0001	<.0001		0.0010
Week 6	LS Mean	-5.4	-8.2	-8.5	-5.3	-8.0
	p-value		<.0001	<.0001		0.0014

- Common endpoint visit for all four studies is Week 6
- Pooled Data exclude 100 mg and 600 mg that were tested in one study only
- Primary Analysis of ADHD-RS-5 in Intent to Treat Population

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SPN-812 Phase III Data: Secondary Endpoint

Analysis of Observed Global Improvement Score (CGI-I) at EOS

P301	Statistics	Placebo (N=155)	100 mg (N=147)	200 mg (N=158)
Week 6 (EOS)	LS Mean	3.1	2.7	2.6
	p-value		0.0020	<.0001
P302	**Statistics**	**Placebo (N=104)**	**200 mg (N=94)**	**400 mg (N=103)**
Week 6 (EOS)	LS Mean	3.0	2.5	2.4
	p-value		0.0042	0.0003
P303	**Statistics**	**Placebo (N=97)**	**200 mg (N=107)**	**400 mg (N=97)**
Week 8 (EOS)	LS Mean	3.1	2.6	2.6
	p-value		0.0028	0.0099
P304	**Statistics**	**Placebo (N=96)**	**400 mg (N=99)**	**600 mg (N=97)**
Week 7 (EOS)	LS Mean	2.9	2.4	2.6
	p-value		0.0051	0.0995

EOS = End of Study

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SPN-812

Summary of Treatment Related Adverse Events

Number (%) of Patients - Treatment Related AEs with ≥ 5% Incidence
All Four Phase III Trials

	Placebo (N=463)	SPN-812 (N=925)
Somnolence	14 (3.0)	115 (12.4)
Decreased appetite	2 (0.4)	61 (6.6)
Headache	14 (3.0)	57 (6.2)
Fatigue	10 (2.2)	56 (6.1)
Discontinuation due to AEs	**6 (1.3)**	**32 (3.5)**

AEs = Adverse Events

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