Edasalonexent: An NF-κB Inhibitor in Phase 3 Development for Duchenne Muscular Dystrophy

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This presentation contains forward-looking statements within the meaning of The Private Securities Litigation Reform Act of 1995, including statements regarding our expectations and beliefs about our business, future financial and operating performance, clinical trial plans, product development plans and prospects, including statements about future clinical trial plans including, among other things, statements about our single global Phase 3 PolarisDMD trial in Duchenne muscular dystrophy, or DMD, to evaluate the efficacy and safety of edasalonexent for registration purposes, our plans to continue to evaluate data from the open-label extension of our MoveDMD® clinical trial of edasalonexent for the treatment of DMD, and our plans to combine edasalonexent treatment with other DMD treatments such as gene therapy and other dystrophin-targeted approaches. The words “believe”, “anticipate”, “plans,” “expect”, “could”, “should”, “will”, “would”, “may”, “intend” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words.

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Joanne Donovan is an employee of Catabasis Pharmaceuticals, Inc.

Edasalonexent is an investigational agent that is not approved in any territory.

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Edasalonexent: An NF-κB Inhibitor in Development for DMD

Results from the Phase 2 MoveDMD trial and open-label extension

An update on the currently enrolling global Phase 3 PolarisDMD trial

An introduction to the new open-label extension GalaxyDMD trial

Edasalonexent: Potential to Slow Disease Progression for All Those Affected by Duchenne

- Being developed as a new oral foundational therapy for all affected by Duchenne, regardless of mutation type, from time of diagnosis throughout their lifetime
- Being developed for treatment alone and potential to be combined with dystrophin-targeted therapies
- In Phase 2 MoveDMD trial and open-label extension, edasalonexent substantially slowed disease progression compared to off-treatment control period
- Edasalonexent is an investigational agent not currently approved in any territory

Edasalonexent: Potential for Broad Therapeutic Benefit

Activated NF-κB leads to disease progression in DMD

Skeletal Muscle

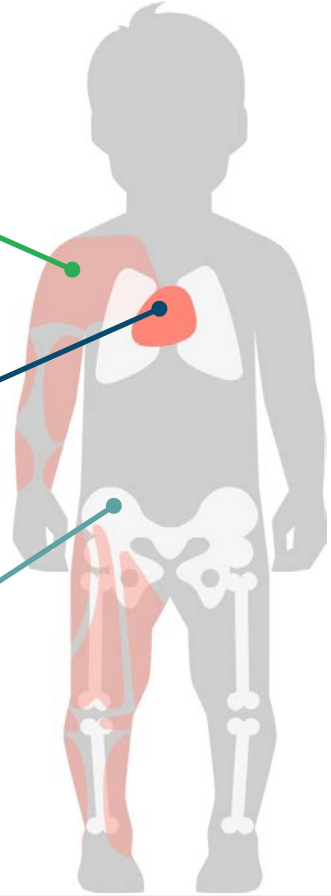
Loss of ambulation, upper limb function, respiratory failure

Heart

Cardiomyopathy

Bone

Fractures



Vision for Edasalonexent, an NF-κB inhibitor

Goal: Improve skeletal muscle function

Goal: Preserve cardiac function

Goal: Reduce risk of fractures

NF-κB is a key link between loss of dystrophin and disease pathology; it plays a fundamental role in the initiation and progression of skeletal muscle, respiratory and cardiac disease in DMD

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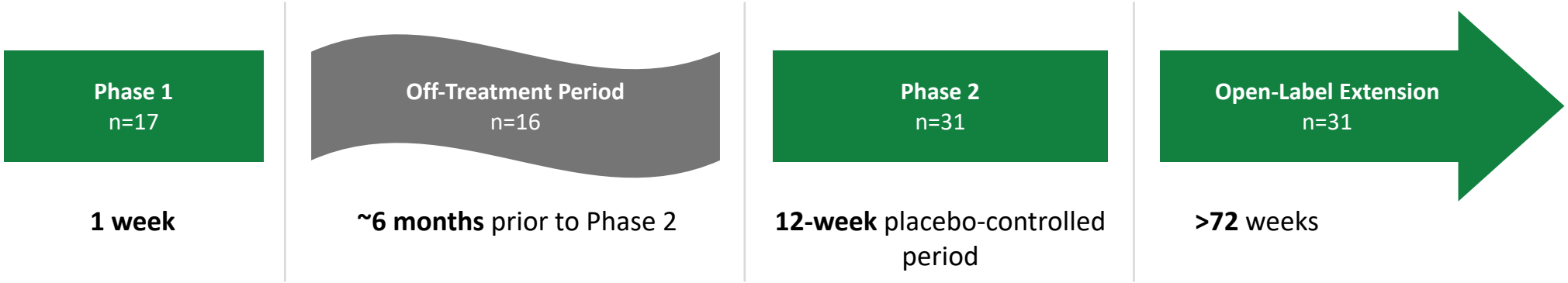
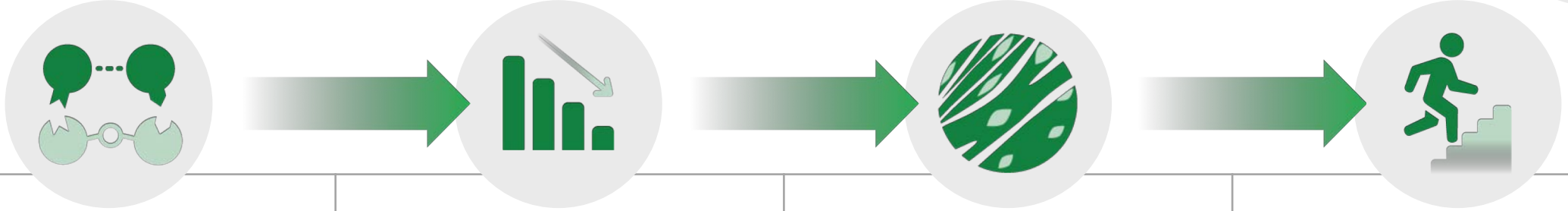
Design of MoveDMD, a Phase 2 Trial with Open-Label Extension

- **Study Objectives**
  - Proof of concept using MRI to assess changes in muscle health
  - Long-term study to enable Phase 3
- **Key Inclusion / Exclusion criteria**
  - Age 4 to 7 (up to 8th birthday) not on corticosteroids for at least 24 weeks



- **Analysis Plan**
  - 12-week placebo control period
  - **Compare changes during off-treatment control period with changes after initiation of edasalonexent**

Range of Endpoints to Demonstrate Proof of Concept and Support Design of Phase 3



NF-κB Target Engagement	Biomarkers	Muscle MRI	Functional
▸ Inhibition of NF-κB targeted gene set in peripheral blood	▸ CRP, biomarker of inflammation ▸ Muscle enzymes	▸ MRI T2 of upper and lower leg ▸ MRS muscle fat	▸ North Star Ambulatory Assessment and Timed Function Tests

Key Functional Assessments Performed During Clinic Visits

North Star Ambulatory Assessment

Assessment measures — from most to least difficult

Hop right leg	Climb box step right
Hop left leg	Climb box step left
Stand on heels	Stand on one leg right
Rise from floor	Stand on one leg left
Run	Get to sitting
Jump	Rise from chair
Lift head	Walk
Descend box step right	Stand
Descend box step left	

How measures are scored:

- 2 Can perform
- 1 Can perform with difficulty
- 0 Unable to perform

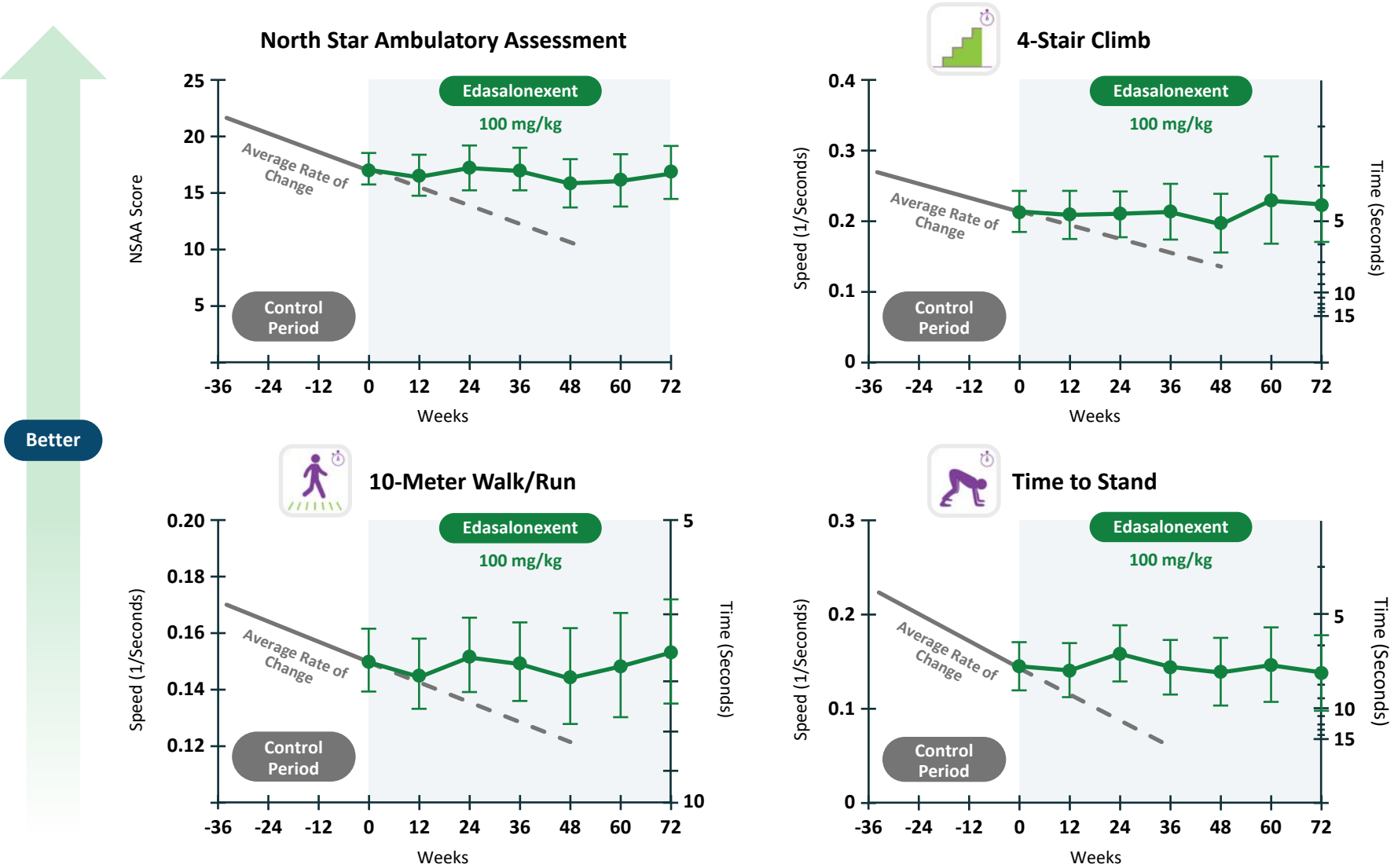
Timed Function Tests

10-meter walk/run

4-stair climb

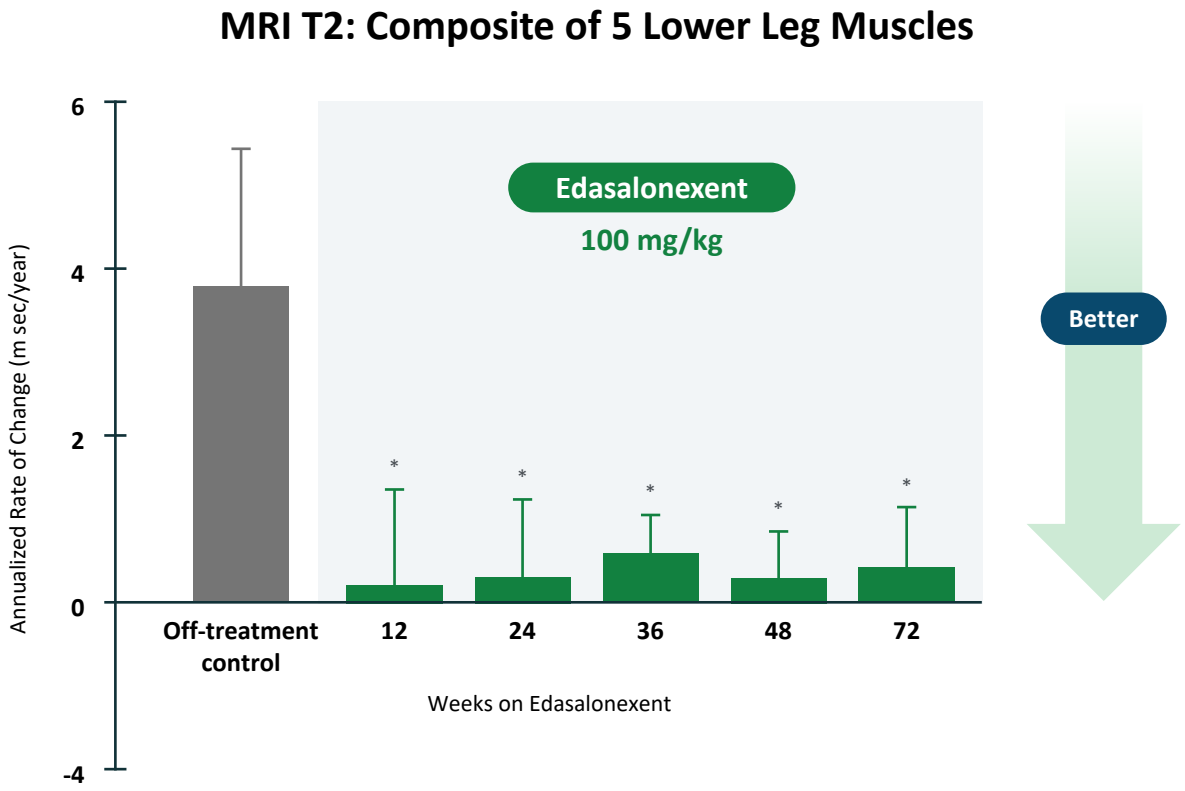
Time to rise from supine

In Phase 2 MoveDMD Trial and Open-Label Extension: **All Assessments of Function Stabilized on Edasalonexent Compared to Off-Treatment Control**



Means ± SEM shown. Includes data of all boys initially started on 100 mg/kg dose (n=16) with 11 boys participating through 72 weeks.

In Phase 2 MoveDMD Trial and Open-Label Extension: **Edasalonexent Improved Rate of Change of MRI T2 Compared to Off-Treatment Control Period**



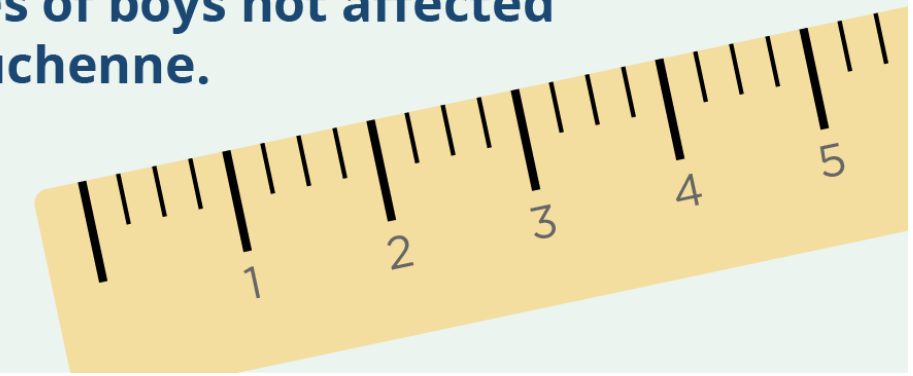
- Composite of 5 lower leg muscles MRI T2 used to encompass muscles at various stages of disease progression and minimize variability
- Following 72 weeks of edasalonexent, the rate of increase in the composite MRI T2 in the five lower leg muscles decreased as compared to the rate of increase during the off-treatment control period

Means + SEM; mixed model comparison with off-treatment period
* Week 12: p=0.002, n=16; Week 24: p=0.004, n=14; Week 36: p=0.032, n=13; Week 48: p=0.018, n=12; Week 72: p=0.052, n=9

Safety: Edasalonexent Has Been Well Tolerated To Date

- **50+ years of patient exposure**
  - Majority of adverse events observed were mild in nature
- **Boys on edasalonexent in our Phase 2 clinical trial and open-label extension grew similarly to boys not affected by Duchenne**
  - Height increased by an average of 2.1 inches/year
  - Weight increased by an average of 2.9 pounds/year
  - Both increases in line with typical height and weight increases of boys not affected by Duchenne

Boys are growing taller!
Boys grew over 2 inches per year on average, which is comparable to the growth curves of boys not affected by Duchenne.



Edasalonexent: An NF-κB Inhibitor in Development for DMD

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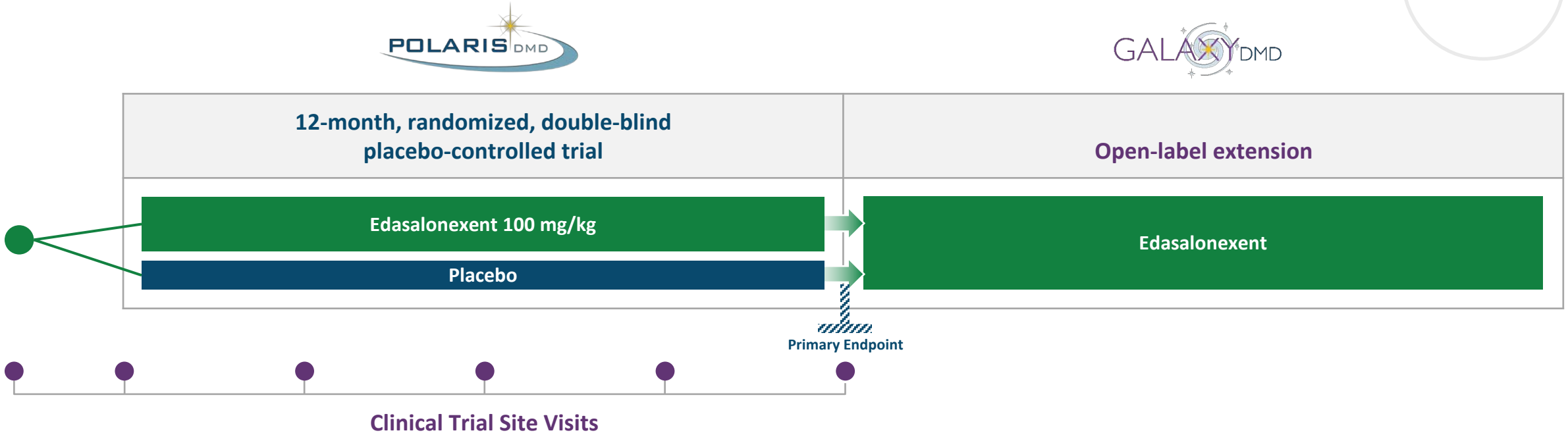
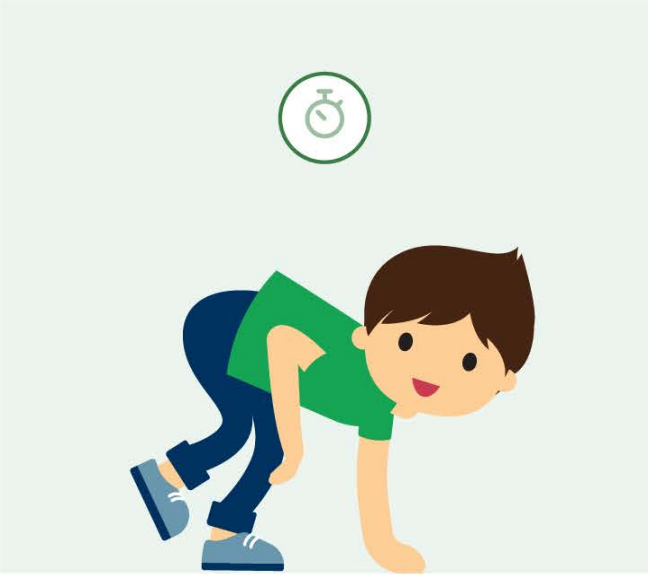
Phase 3 PolarisDMD Trial Design and Schedule

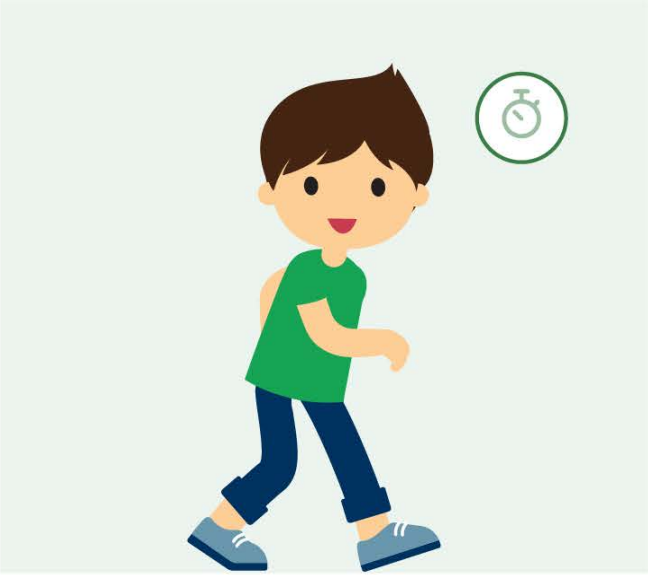


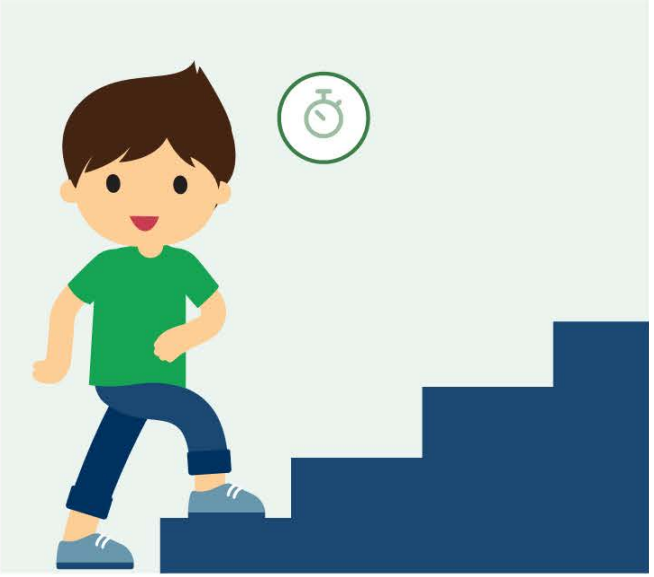
- Enrolling ~125 boys ages 4 to 7 (up to 8th birthday)
  - Not on corticosteroids for at least 6 months
- 2:1 randomization, 67% of boys receive drug initially, all boys may continue to receive drug after completing PolarisDMD through GalaxyDMD
- Clinical trial site visits and key assessments every 3 months
- Safety measures including labs every 3 months
- Trial overseen by Data Safety Monitoring Board

PolarisDMD Trial Designed with Input from the Duchenne Community

- **Designed the trial with input from advocacy organizations, families, physicians**
  - Understand the burden of clinical trial participation
- **NSAA and additional endpoints are measures that reflect everyday life**
  - Standing up from the ground, walking, climbing stairs



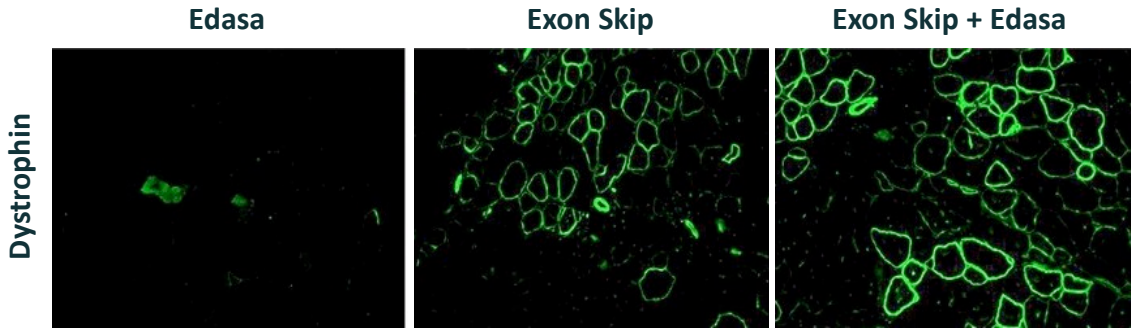




We Plan to Investigate the Potential for Co-Administration of Edasalonexent with Dystrophin-Targeted Therapies

Edasalonexent in combination with exon-skipping increased dystrophin expression in *mdx* mice

- Activated NF-κB increases the expression of several microRNAs that suppress dystrophin production
- Inhibiting NF-κB may enhance dystrophin expression in combination with dystrophin-targeted therapies in DMD



In eligible boys in the MoveDMD open-label extension, treatment of edasalonexent with EXONDYS 51® (exon skipping) was well tolerated

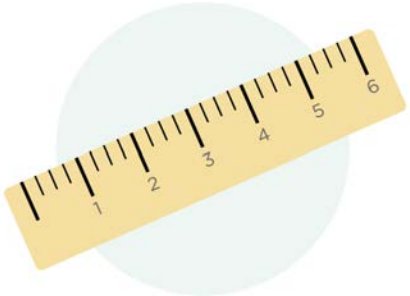
Boys on EXONDYS 51 are eligible for Phase 3 PolarisDMD and GalaxyDMD trials

Presented at the 22nd International Annual Congress of the World Muscle Society, 2017

Edasalonexent Is Taken as a Gel Capsule

- **Dose 100 mg/kg/day**
- **Taken 3 times per day with food**
  - Mid-day dose can be at school or at home after school
- **2 different small capsule sizes**
  - 100 mg capsules are similar to the size of a tic-tac
  - 250 mg capsules are similar to the size of a jelly bean
- **Medi-straws provided to facilitate capsule swallowing**

Additional Assessments Include Growth, Cardiac and Bone Health Measures

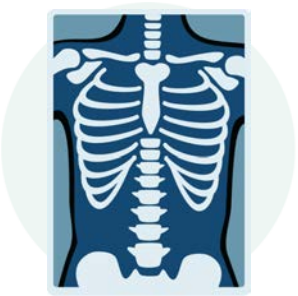


Growth

- Monitoring height and weight to assess how boys are growing relative to their expected growth curves

Heart

- Monitoring with an easy to wear at-home small adhesive device at baseline, 6 and 12 months
- Will be analyzed for changes in heart rate as well as heart rate variability



Bone

- X-rays of the spine at baseline and after one year of treatment
- Bone mineral density by DXA at baseline and after one year of treatment

Many Clinical Trial Sites to Improve Patient Access

Sites active and enrolling patients globally

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PolarisDMD trial

**An introduction to the new
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GalaxyDMD trial**

Launching New GalaxyDMD Trial for Boys Receiving Open-Label Edasalonexent

- **GalaxyDMD is enrolling boys from MoveDMD open-label extension and provides an opportunity for open-label edasalonexent after completing 1-year PolarisDMD trial**
- **Ongoing monitoring with patient visits every 6 months**
  - Assessments of muscle function:
    - North Star Ambulatory Assessment
    - Timed Function Tests
  - Long term safety including growth and bone health

GalaxyDMD Focuses on Long-Term Safety and Allows Sibling Participation

- **Primary focus is evaluation of edasalonexent long-term safety with site visits every 6 months**
- **Participants from MoveDMD trial transitioning to GalaxyDMD**
  - Boys have received edasalonexent for 2+ years, average age ~9
- **Once boys from MoveDMD and PolarisDMD enter GalaxyDMD, there will also be an opportunity for their eligible brothers to join**
  - May be eligible if receiving approved exon-skipping therapies

GalaxyDMD Inclusion and Exclusion Criteria

- **Inclusion: completion of the MoveDMD or PolarisDMD study**
- **For siblings of boys who completed MoveDMD or PolarisDMD study:**
  - Inclusion: Genetic diagnosis of Duchenne, age 4-10 (up to 11th birthday)
  - Exclusion: Use of investigational drug or growth hormone, on corticosteroids during previous 24 weeks

Catabasis' Focus on Edasalonexent for Duchenne

Our goal is for edasalonexent to become a new oral foundational therapy to slow disease progression for all affected by Duchenne as a single agent and potential to be co-administered with other therapies

Catabasis is working to design future clinical trials to expand to other age groups, including those who are non-ambulatory, and Becker muscular dystrophy.

Thank You

Patients and families

Patient groups

Nemours Children's Hospital
- Richard Finkel, MD

ImagingDMD & University of Florida
- Krista Vandenborne, PT PhD
- H. Lee Sweeney, PhD
- Rebecca J. Willcocks, PhD
- Glenn Walter, PhD
- Sean C. Forbes, PhD
- William T. Triplett, BSc

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- William Rooney, PhD

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- Perry Shieh, MD PhD

Catabasis Pharmaceuticals
- Maria Mancini, MHP
- Angelika Fretzen, PhD
- Pradeep Bista, PhD
- Andrew Nichols, PhD
- James MacDougall, PhD

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Follow us on social media for frequent updates **@CatabasisPharma**

Learn more about PolarisDMD on our website at **www.catabasis.com** and **clinicaltrials.gov** NCT03703882

Sign up to receive our Newsletter and information updates on our website

Parent Project Muscular Dystrophy

And **thank you** PPMD!