Spotlight on Becker Muscular Dystrophy: Understanding the Lived Experience of Becker and Clinical Advancements with a Novel Agent

Symposium at the Muscular Dystrophy Association (MDA) Clinical & Scientific Conference

Dallas, Texas

Tuesday March 18, 2025



Program Overview

Introduction

Joanne Donovan, MD, PhD

Shedding light on the lived experience of Becker muscular dystrophy

Michael Voto Jr. and Abby Bronson (moderator)

Natural history of Becker muscular dystrophy Craig McDonald, MD

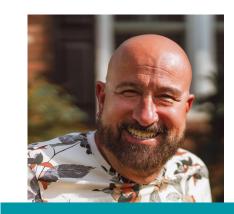
Clinical advancements with a novel agent: Sevasemten clinical program update Craig McDonald, MD

Panel Discussion

Joanne Donovan, MD, PhD (moderator)



Craig McDonald, MD
Professor and Chair, PM&R
U of California Davis. CA

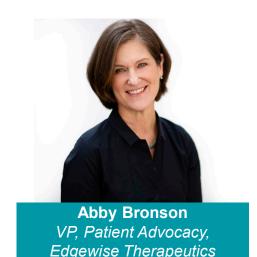


Michael Voto Jr.

Patient Advocate



Joanne Donovan, MD, PhD CMO, Edgewise Therapeutics



Edgewise

Our Goal Is to Positively Impact the Course of Becker Muscular Dystrophy

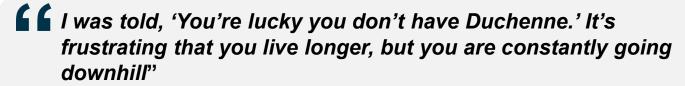








- Becker muscular dystrophy (Becker) is a rare, genetic, lifeshortening, debilitating and degenerative neuromuscular disorder
- The disease predominately affects males and imposes significant physical, emotional, financial and social impacts on the individuals and their caregivers
- Individuals with Becker lose mobility, function and independence in the prime of their lives
- There is currently no treatment for Becker

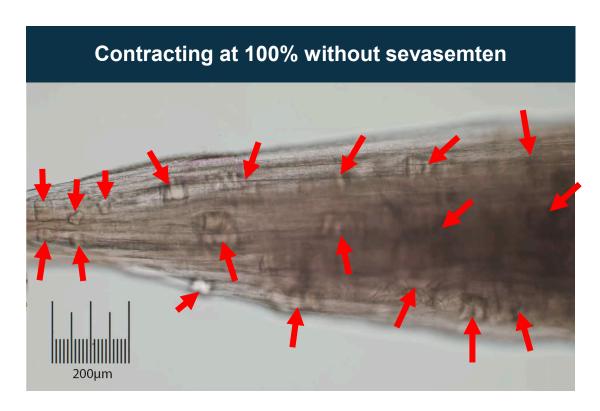


Individual living with Becker

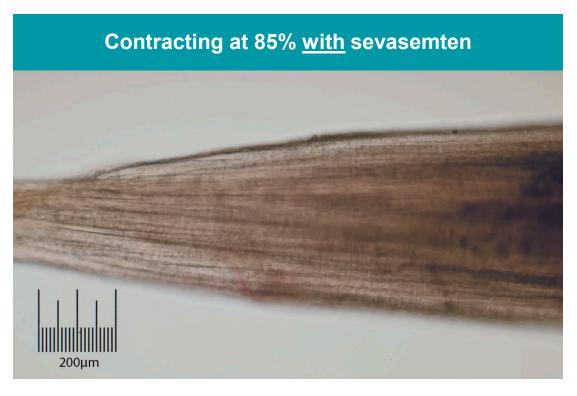


Sevasemten Targets Fast Myosin to Protect Dystrophic Muscle Against Contraction-Induced Injury in *mdx* Mice



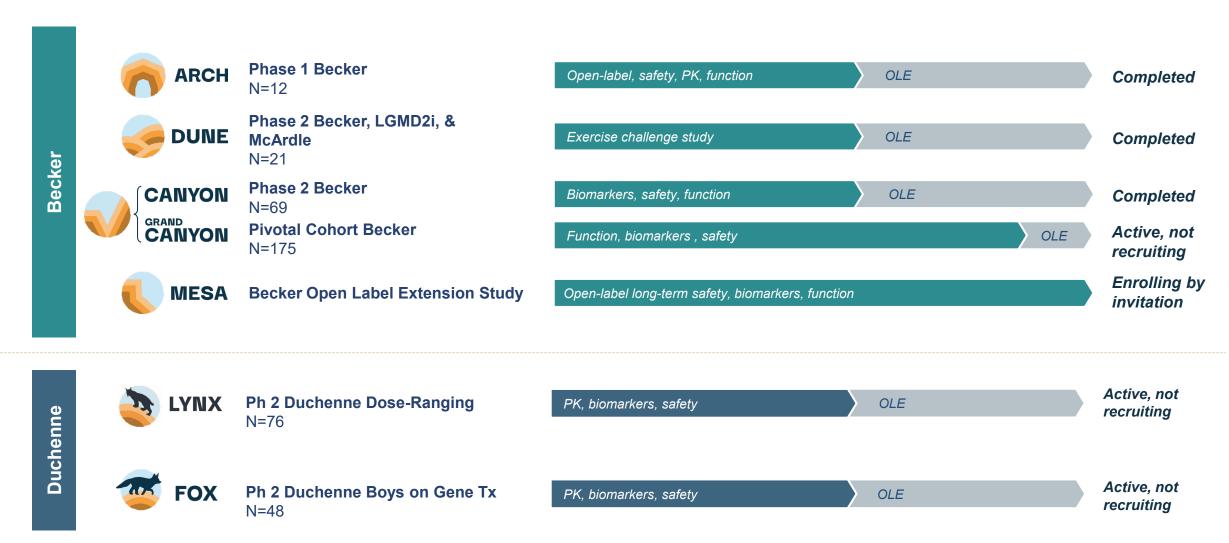


In *mdx* mouse muscle, even a few contractions cause visible injury



By minimally decreasing contraction, while preserving function, contraction-induced injury is prevented

Sevasemten Clinical Program: Completed and Ongoing Clinical Trials



Shedding Light on the Lived Experience of Becker Muscular Dystrophy

Michael Voto Jr.

Patient advocate who lives with Becker muscular dystrophy

Abby Bronson (Moderator)

VP, Patient Advocacy, Edgewise Therapeutics, US



Disclosures

Michael Voto was reimbursed for all expenses related to his participation as a speaker in this session.



Listening to the Needs of the Becker Community is Important

Some common reasons cited by patients for their lack of motivation to seek care:



Do not "know they need help until they do"



Feel that Becker muscular dystrophy is often ignored by the community



Do not accept inevitable severity of disease



Do not realize that they are declining; lack of awareness that cardiac and other health complications can occur before muscular decline

A Recent Survey was Conducted with Becker Patients

Primary research survey conducted with 50 persons in the US impacted by Becker

- Included persons diagnosed with Becker who were 18 years of age or older (34, or 68%) or their parent/legal guardian (11, or 22%)
- Persons diagnosed with Becker who were between 14 and 17 years old were allowed to participate along with their parent/legal guardian (5, or 10%)

Participants were recruited using a variety of methods

- Social media platforms
- Becker educational events
- Individual promotion and outreach



Results: The Road to a Becker Diagnosis is Often Long and Frustrating for Patients

Major themes were expressed by patients about the challenges of diagnosing Becker:

- Waiting for a diagnosis: many in the Becker community are living with symptoms for years before receiving a diagnosis.
- Can be misdiagnosed: over one third of patient respondents were originally misdiagnosed.
- Increased familiarity is needed: overall awareness of Becker is needed.

"... I could have been diagnosed sooner."

patient survey response

"This diagnosis was presented as "mild," but it feels SO BIG."

patient survey response

An accurate diagnosis of Becker can mean appropriate care can start earlier.



Results: Living with Becker has Many Unseen Challenges

Pain, fatigue, and isolation felt on a daily basis by patients living with Becker are often unseen

- Pain and fatigue: very prevalent and often impact day-to-day life while not being visible to others
- **Emotional strain:** significant mental strain associated with having to carefully consider every activity and the way it affects pain, fatigue, and muscle weakness
- Education and employment: navigating school systems and advocating for accommodations are taxing for parents and children living with Becker
- **Finding community:** those in the Becker community desire opportunities to connect with others impacted by Becker





Others impacted by Becker

Healthcare professionals



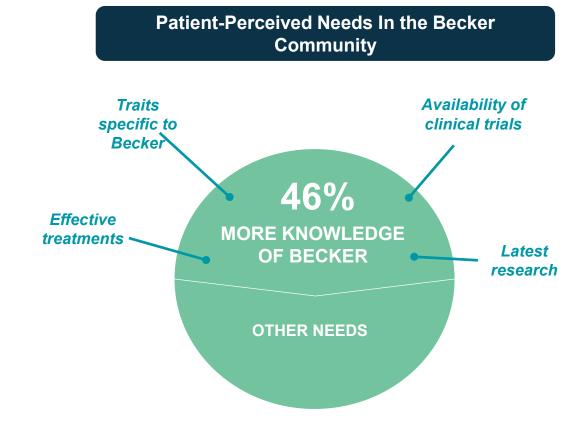
Patient advocacy groups

Becker significantly impacts quality of life. Disease specific assessments and considerations are needed.



Results: Gaps in Care and Support Lead to Uncertainty and Frustration

- Specialty care declines in adulthood:
 Specialized care becomes less consistent around the same age that symptoms often escalate
- Cardiac care is important: Cardiac issues are the most pressing health concern for patients
- Pain management: a majority of those in the Becker community experience pain and patients would benefit from increased discussions about proper management
- Research & Clinical Trial Education: Dedicated research and education is desired by the Becker community



Consistent care and increased knowledge about Becker continue to be needs expressed by patients.



Incorporating the Becker Community Voice Into Activities and Clinical Programs Is Impactful and Important



Key Takeaways:

- Care and access to care is variable for patients living with Becker
- Continued need for Becker specific information overall
- Need for a standard of care and care guidelines
- Desire for the healthcare community to incorporate the patient voice in clinical program and activities to increase awareness of the disease burden

Examples:

- Becker Education & Engagement Day
- TREAT-NMD Expert Becker Muscular Dystrophy
- Incorporating patient input into shaping the sevasemten clinical program

Natural History of Becker Muscular Dystrophy

Craig McDonald, MD

Professor and Chair
Department of Physical Medicine & Rehabilitation
Professor of Pediatrics
Director of MDA Neuromuscular Disease Clinics
University of California Davis Health



Disclosures

Sevasemten is an investigational agent that is not approved for use by any regulatory authority in any territory.

Professor McDonald has served on Advisory Boards, done consulting work on Becker and Duchenne muscular dystrophy clinical trials, and has received research funding for the conduct of clinical trials from Edgewise Therapeutics.



Natural History is Important to Our Understanding of Disease Progression, Patient Care, and Clinical Trial Development



Disease Progression

Provides the communities with an increased understanding of the disease progression



Prognostic Purposes

- Clinical and genetic counseling
- Identification of prognostic markers (inclusion criteria)
- Insights about pathology (therapeutic targets)



Functional Change Measures

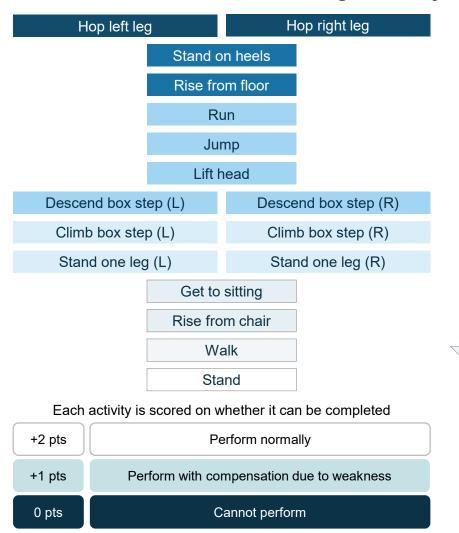
 Insightful for powering and designing clinical trials

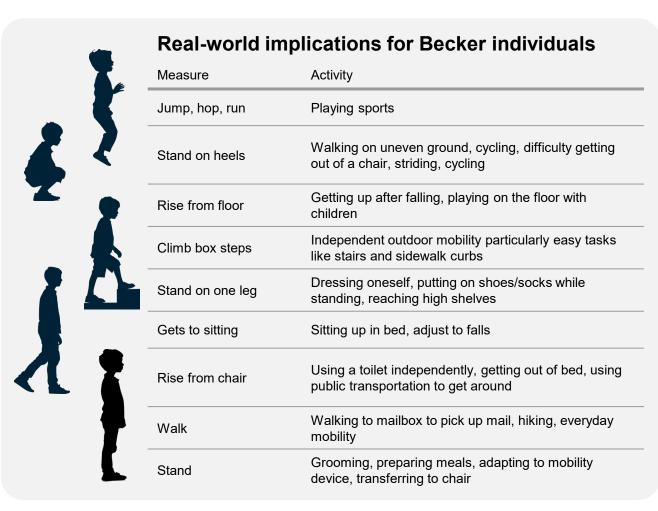
NSAA: A Well-Established and Validated Measure of Global Function That is Clinically Meaningful in a Real-World Context

Hardest

Fasiest

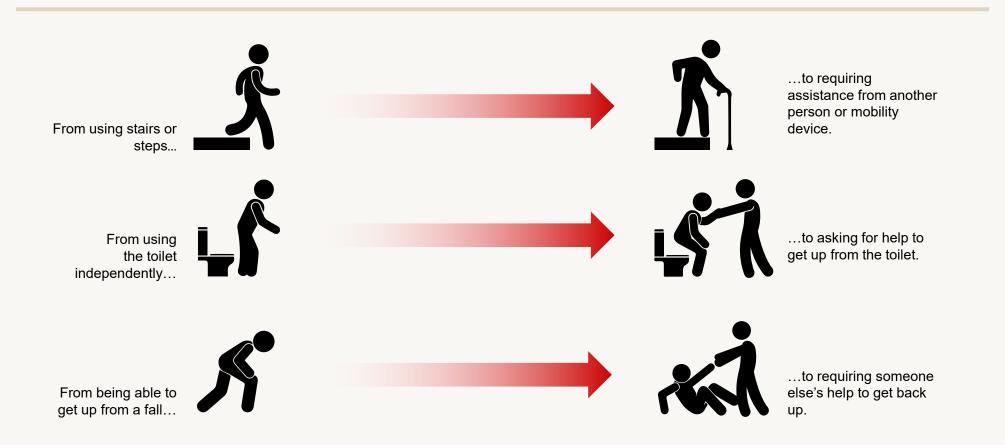
Composite evaluation of motor function across 17 tests with increasing difficulty





How a 1-Point NSAA Change in Becker Could Be Interpreted

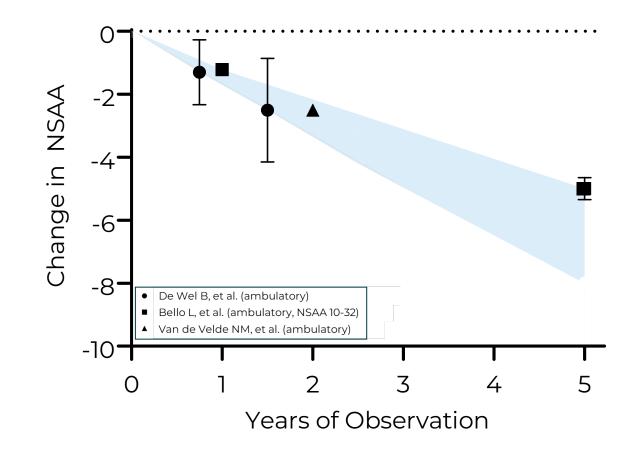
For individuals living with Becker, this decline could look like:



Natural History Data in Becker Supports That Functional Decline, Measured by NSAA, is Consistent and Predictable

Natural history of Becker muscular dystrophy

- The North Star Ambulatory Assessment NSAA) is utilized in muscular dystrophy natural history studies to longitudinally assess function.
- Multiple natural history studies in individuals with Becker demonstrate a NSAA average score decline of 1.0 to 1.7 points annually.^{1,2,3,4}
- Becker Natural history studies support that NSAA decline is consistent in Becker patients who are already progressing



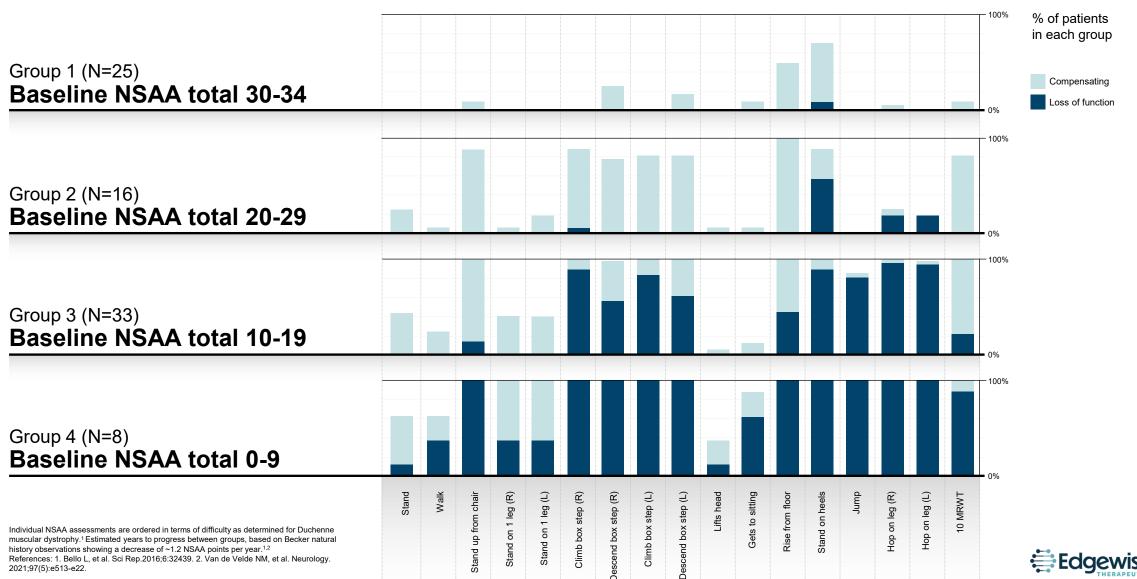


Padova Cohort: Longitudinal NSAA by Mutation Group

5-Year NSAA Changes

Group	n (pts)	n (evals)	Estimate of annual change	SE	p-value
All	89	504	-0.63	0.04	< 0.0001
del 45-48	15	94	-0.74	80.0	< 0.0001
del 45-47	14	80	-1.00	0.08	< 0.0001
del x-51	11	50	-0.03	0.01	0.0007
del 48	12	63	-0.08	0.04	n.s.
del 45-55	5	12	-0.47	0.16	n.s.
del 48-49	3	14	-1.35	0.16	< 0.0001
nonsense	2	24	-0.38	0.10	0.002

Individuals with Becker Experience Muscle Decline Compensation and Rapid Loss of Function as NSAA Scores Decline



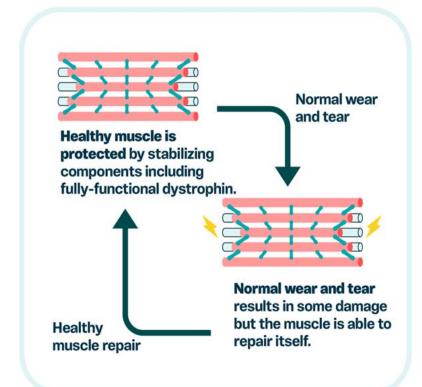
Becker Natural History: Key Takeaways

- Becker muscular dystrophy is a serious muscular dystrophy.
- NSAA is a clinically meaningful functional measure utilized in muscular dystrophy natural history studies to longitudinally assess function.
- Once function begins to decline, individuals continue on an irreversible path to losing muscle and consequently, function.
- Stabilizing function or even reducing the slope of decline is an important and urgent goal in Becker muscular dystrophy.

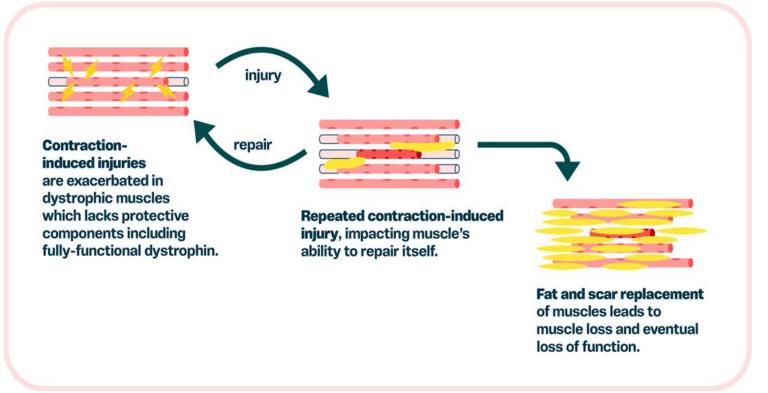
Clinical Advancements with a Novel Agent: Overview of the Sevasemten Clinical Program

Contraction-Induced Muscle Injury is the Root Driver of Disease Progression in Muscular Dystrophy

HEALTHY MUSCLE



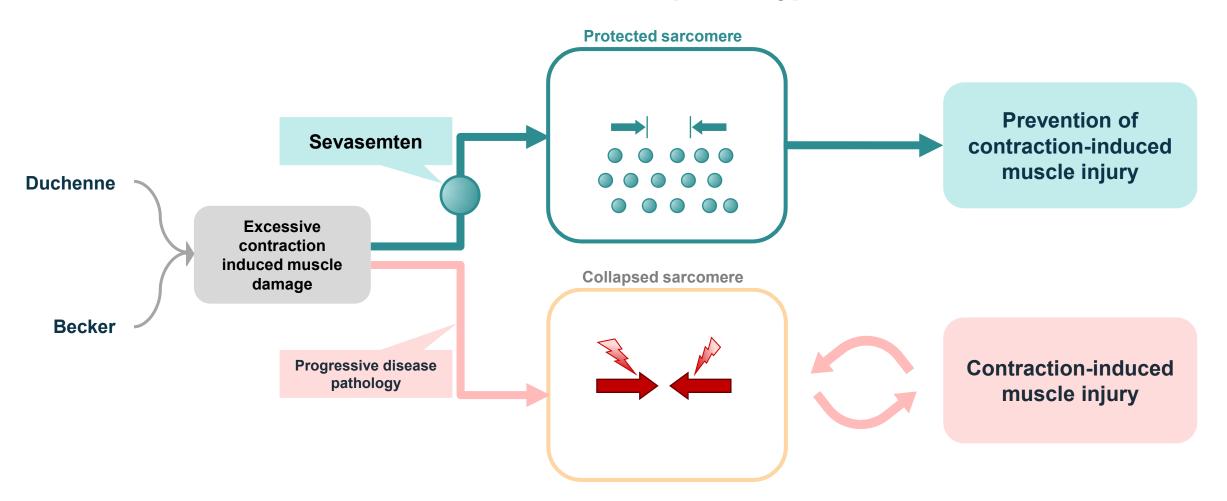
DYSTROPHIC MUSCLE



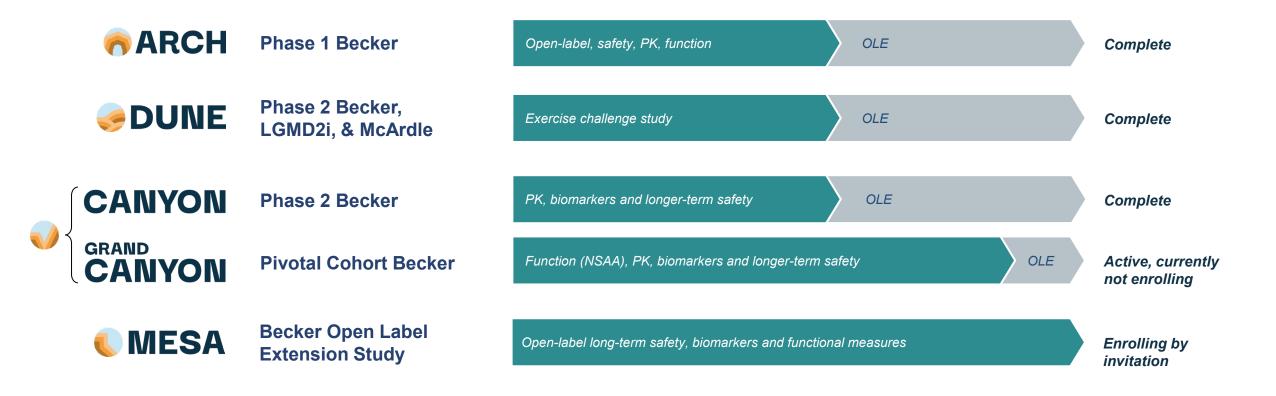


Sevasemten: A First-in-Class Fast Myofiber (type II) Myosin Inhibitor Designed to Protect Against Contraction-Induced Muscle Injury

Sevasemten Therapeutic Hypothesis



The Sevasemten Clinical Program in Becker





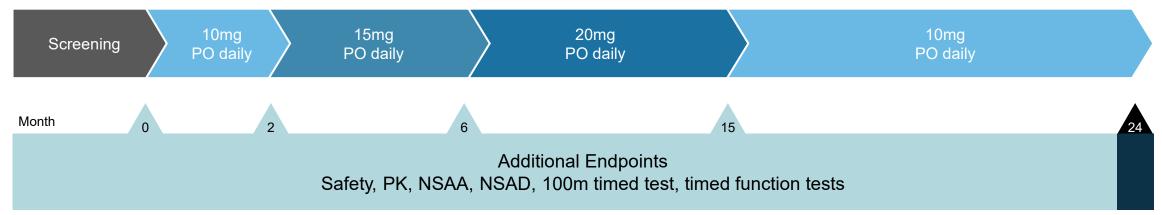
An open-label, single-center study to assess sevasemten safety and pharmacokinetics in adults with Becker

NCT05160415

ARCH An Open-Label, Single-Center Study to Assess Sevasemten Safety and Pharmacokinetics in Adults with Becker

- Primary objective: Safety and tolerability at 24 months
- **Key inclusion criteria:** Ambulatory males aged 18 to 55 years with a dystrophin mutation and a Becker phenotype, not on corticosteroids, who could complete 100-m timed test
- Patients enrolled: 12

Study design - 24 months







ARCH Participants Had Significant Functional Impairment & Decreased Muscle Mass at Baseline

CHARACTERISTIC	BECKER PARTICIPANTS (n=12)	AGE NORMATIVE VALUES
Age (SD)	33 (8) years	_
Functional Measures (median)		
10-meter walk/run	8.4 sec	< 4 sec
Rise from floor	6/12 could perform	< 3 sec
NSAA	15.5 (range 4-31)	_
Serum Creatinine (mean, mg/dL)	0.44	0.92 - 1.16
Serum CK (mean, U/L)	1,390	<210
DXA % Lean Mass	55%	>75%

Adults with similar baseline NSAA scores expected to decrease by 1.2 points per year^{2,3}

DXA, dual energy x-ray absorptiometry



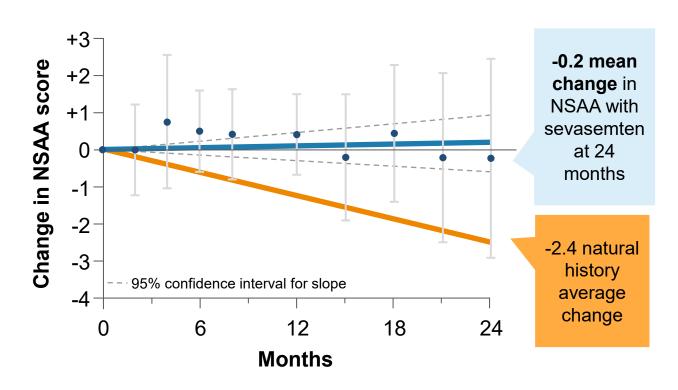
^{1.} Phan H, et al. Oral presentation presented at: American Academy of Neurology; April 13-18, 2024; Denver, CO.

^{2.} Bello L, et al. Sci Rep. 2016. 3. Van de Velde NM, et al. Neurology. 2021.



- Early and rapid reductions in CK and TNNI2, biomarkers of muscle damage, were sustained to 24 months.
- Stabilization of functional assessments was seen.
 - NSAA diverged from natural history.
 - No statistically significant change in 100-meter timed test velocity and max grip strength.

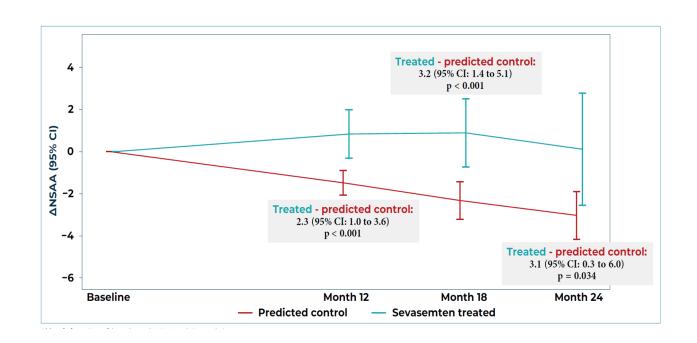
NSAA change





ARCH Predictive Modeling Analysis

- Prediction models for natural history trajectories can provide important benchmarks for the outcomes of patients receiving novel therapies.
- This is especially valuable over multi-year periods in Becker Muscular Dystrophy (BMD) for which placebo controls are not feasible.
- A prediction model for changes in the North Star Ambulatory Assessment (NSAA) total score in BMD patients was developed based on longitudinal natural history data.
- The model was then validated against published studies of independent BMD data.



For more information, please see MDA poster P10 and P11!





A Phase 2 study of the effect of sevasemten on biomarker response to exercise in adults with Becker muscular dystrophy, McArdle disease, or Limb-Girdle muscular dystrophy



A 2-Part, Single-Center Phase 2 Study of Sevasemten in Adults with Becker, McArdle Disease, and Limb-Girdle MD 21

- Primary endpoint: Change from baseline in biomarkers at 16 weeks (interim analysis)
- **Objective:** Does sevasemten reduce elevations in biomarkers of muscle damage after exercise?
- Key inclusion criteria: Ambulatory individuals aged ≥ 18 years with confirmation of genetic disease, not on corticosteroids
- Patients enrolled: 9 Becker, 9 LGMD 21, 3 McArdle

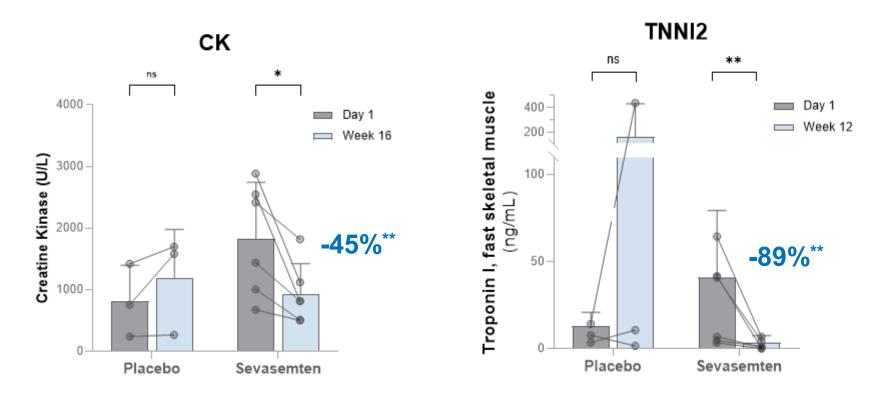
Study design







In Becker, Sevasemten Significantly Reduced Elevations in Biomarkers of Muscle Damage



Primary endpoint: CK change from baseline after 16 weeks sevasemten vs. placebo in Becker

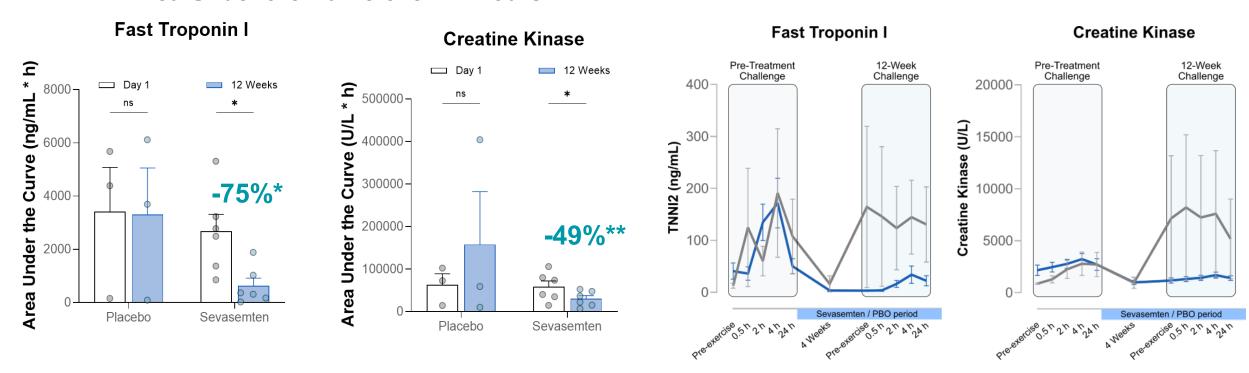
- With sevasemten, CK was significantly decreased compared to baseline(**p<0.01) and compared to placebo (*p<0.05) during a period
 of normal activity.
- At 12 weeks, with sevasemten, TNNI2 was significantly decreased by 89% compared to baseline (p<0.01) and compared to placebo (p<0.05) during a period of normal activity.





In Becker, Sevasemten Significantly Reduced Post-Exercise Increases in TNNI2 and CK

Area Under the Curve over 24 Hours



- With sevasemten, TNNI2 was decreased in the 24 hours after exercise compared to baseline (*p<0.05) and compared to placebo (p=0.07).
- With sevasemten, CK was significantly decreased in the 24 hours after exercise compared to baseline (**p<0.001).



- Sevasemten decreased CK and TNNI2 significantly compared to placebo during a period of normal activity.
- 12 weeks of treatment with sevasemten resulted in significant reductions in the post-exercise increases in multiple biomarkers of muscle injury, including CK and TNNI2.
- Sevasemten was generally well tolerated.



A multi-center, randomized, double-blind, placebo-controlled, Phase 2 study to evaluate the safety, pharmacokinetics, biomarkers, and functional measures of sevasemten

NCT05291091



CANYON A Phase 2 Multi-Center Study to Assess Sevasemten Safety and Effect on Biomarkers in Adults with Becker

ADULT PRIMARY EFFICACY ENDPOINT

Change from baseline in CK averaged across Months 6, 9 and 12

KEY INCLUSION CRITERIA

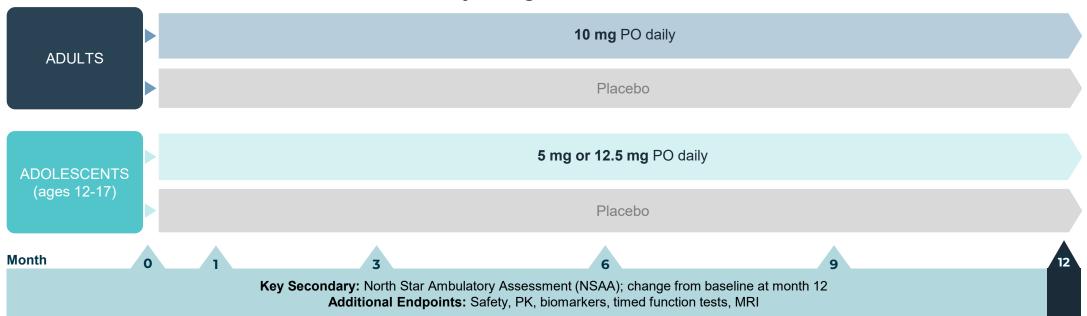
Ambulatory males aged 12 to 50 years with a dystrophin mutation and a Becker phenotype, not on corticosteroids, with a NSAA between 5-32*

PATIENTS ENROLLED

Adults: 40

Adolescents: 29

Study design - 12 months



^{*}Adolescents were not selected based on NSAA CK, creatine kinase; NSAA, North Star Ambulatory Assessment; PK, pharmacokinetics



CANYON Becker Mutation Overview: Slow Progression Genotypes were Largely Excluded with Functional Cut-Off Criteria

Mutation type	Adults (N=40)	Adolescents (N=29)
Becker mutations associated with progression	39	26
45-x	20	11
Other	19	15

None/very slow progression Becker mutations	1	3
X-51	1 (sevasemten)	2 (sevasemten)
Del 48	0	0
45-55 (associates with late myopathy)	0	1 (sevasemten)



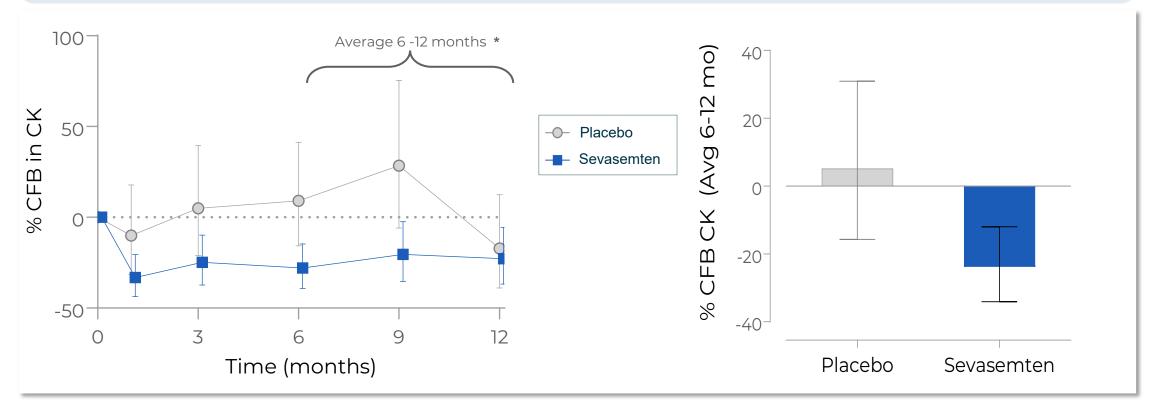
CANYON Functional Measures Not Well Matched at Baseline; Patients in Sevasemten Group had Lower Baseline NSAA

Functional test	Adults Sevasemten (n=28)	Adults Placebo (n=12)	Difference (from placebo)	P-value vs. Placebo
Mean total NSAA score, points (SD)	18.4 (7.66)	24.2 (8.19)	-5.8	0.04
Mean 4SC velocity, 1/seconds (SD)	0.22 (0.128)	0.34 (0.173)	-0.12	0.02
Mean RFF velocity, 1/seconds (SD)*	0.14 (0.114)	0.21 (0.128)	-0.07	0.09
Mean 10MWR velocity, meters/second (SD)	1.52 (0.731)	2.00 (0.884)	-0.48	0.08
Mean 100MTT velocity, meters/second (SD)	1.50 (0.856)	1.78 (0.782)	-0.28	0.32



Statistically Significant Decrease in the Primary Endpoint of CK: 28% Reduction vs. Placebo





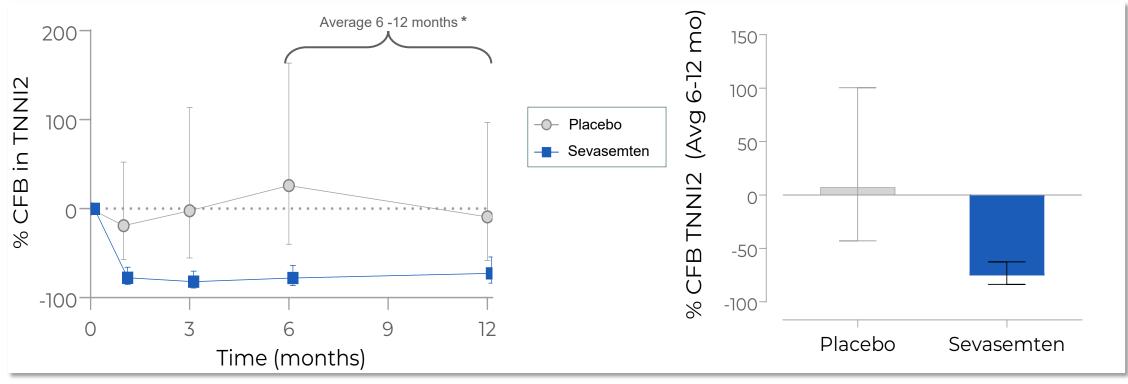
CK showed rapid and sustained decreases with sevasemten treatment



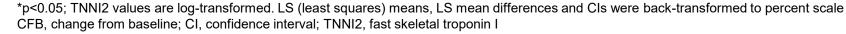


CANYON Treatment Group vs. Placebo TNNI2 Decreased 77% from Baseline in the Sevasemten

Fast skeletal troponin I (TNNI2) between-group difference LSMean: -77% (95% CI -89% to -51%); **p-value < 0.001**



TNNI2, an on-target biomarker of fast muscle fiber damage, also demonstrated rapid and sustained decreases with sevasemten treatment

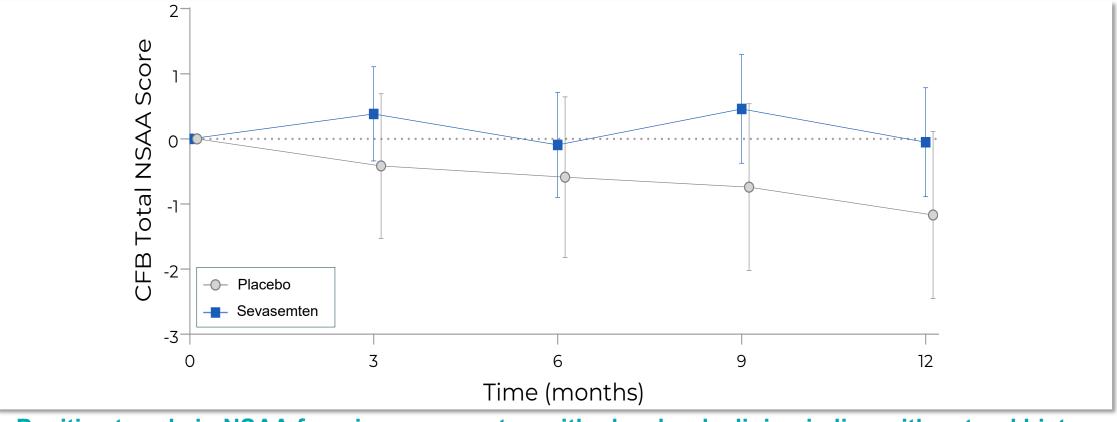






CANYON Key Secondary Endpoint: NSAA Remained Stable Over Time in Sevasemten Group

NSAA between-group difference LSMean: 1.12 (95% Cl -0.4 to 2.7); **p-value = 0.16**



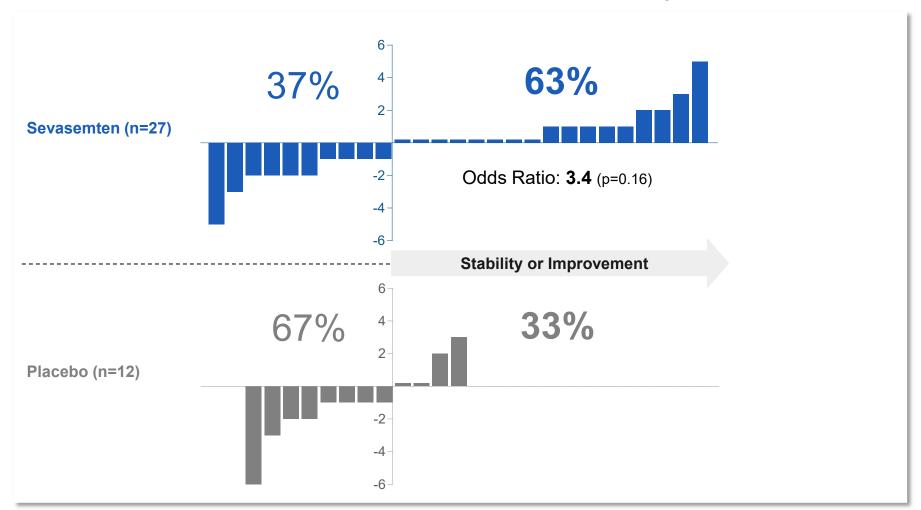
Positive trends in NSAA favoring sevasemten with placebo declining in line with natural history





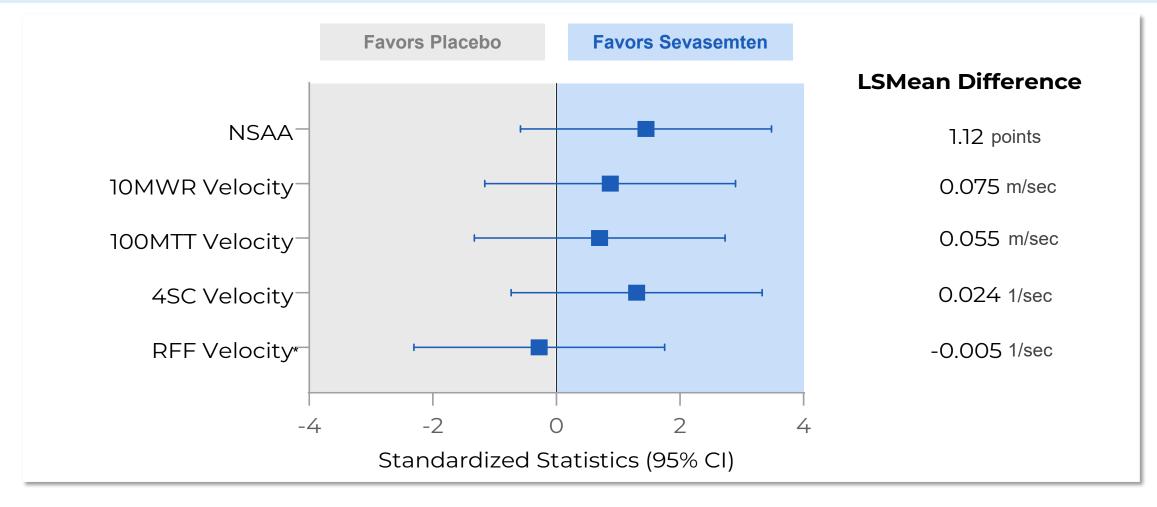
CANYON 63% of Patients Treated with Sevasemten Showed Stable or **Improved Function After 12 Months**

Sevasemten NSAA Responder Analysis





Trends in Other Functional Measures Favor Sevasemten Treatment Arm



^{*}At baseline, 9 sevasemten and 1 placebo treated participants were unable to rise from floor. At Month 12, 9 sevasemten and 2 placebo treated participants were unable to rise from floor. Note: For the figures, LSM differences and Cis were standardized by dividing by the SE. LSM differences presented on the right of the figure are on original scale (without SE adjustment).

CI, confidence interval; NSAA, North Star Ambulatory Assessment

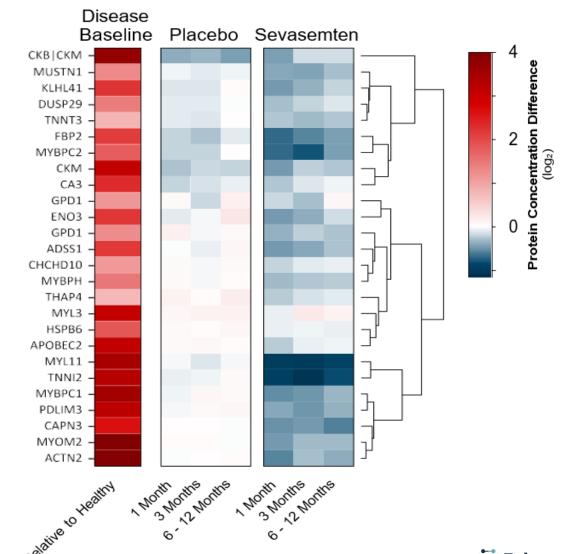




Sevasemten Significantly and Robustly Reduced Muscle Injury Proteins Relative to Placebo

- All muscle injury proteins were generally elevated in CANYON BMD subjects relative to healthy samples.
- While placebo generally had little effect, daily treatment with 10 mg of sevasemten broadly reduced circulating levels by 1 month and maintained reduced levels through 6-12 months.

For more information, please see MDA poster LB432!





CANYON Sevasemten was Well Tolerated: Overview of Treatment Emergent Adverse Events (TEAE)

Functional test	Sevasemten (n=28) n (%)	Placebo (n=12) n (%)	Total (N=40) n (%)
Any TEAE	26 (92.9)	10 (83.3)	36 (90)
Severe TEAE	0 (0)	0 (0)	0 (0)
Serious Adverse Events	1 (3.6)	0 (0)	1 (2.5)
Any drug related TEAE	16 (57.1)	5 (41.7)	21 (52.5)
Discontinuation due to TEAE	1 (3.6)	0 (0)	1 (2.5)
Deaths	0 (0)	0 (0)	0 (0)



CANYON Sevasemten was Well Tolerated: TEAEs Occurring in ≥5% of Total

System Organ Class/Preferred Term	Sevasemten (n=28) n (%)	Placebo (n=12) n (%)	Total (N=40) n (%)
Any TEAE	26 (92.9%)	10 (83.3%)	36 (90%)
Eye disorders			
Vision blurred	1 (3.6%)	2 (17%)	3 (8%)
General disorders and administration site conditions			
Fatigue	5 (18%)	3 (25%)	8 (20%)
Infections and infestations			
COVID-19 Nasopharyngitis Upper respiratory tract infection Influenza	6 (21%) 6 (21%) 5 (18%) 4 (14%)	2 (17%) 2 (17%) 2 (17%) 1 (8%)	8 (20%) 8 (20%) 7 (18%) 5 (13%)
Injury, poisoning and procedural complications			
Fall	8 (29%)	2 (17%)	10 (25%)
Investigations			
Ejection fraction decreased	0 (0%)	2 (17%)	2 (5%)
Musculoskeletal and connective tissue disorders			
Back pain	3 (11%)	0 (0%)	3 (8%)
Nervous system disorders			
Headache Dizziness Somnolence Migraine	9 (32%) 9 (32%) 5 (18%) 3 (11%)	2 (17%) 0 (0%) 1 (8%) 1 (8%)	11 (28%) 9 (23%) 6 (15%) 4 (10%)
Respiratory, thoracic and mediastinal disorders	· · ·		
Oropharyngeal pain Cough	4 (14%) 3 (11%)	0 (0%) 0 (0%)	4 (10%) 3 (8%)

○ CANYON Summary of Trial Results



Safety

- Well-tolerated, at all doses, in adults and adolescents
- No safety concerns identified



Biomarkers

- Primary endpoint achieved: 28% average decrease in CK versus placebo (p=0.02)
- Plasma TNNI2 decreased 77% from baseline versus placebo (p<0.001)



Function

- Sevasemten treated patients (n=28) showed stabilization of NSAA with trends toward improvement
- Placebo group (n=12) declined in line with natural history



The imbalance between groups confounded interpretation of a few endpoints (e.g., MRI); evaluation of the full data set ongoing

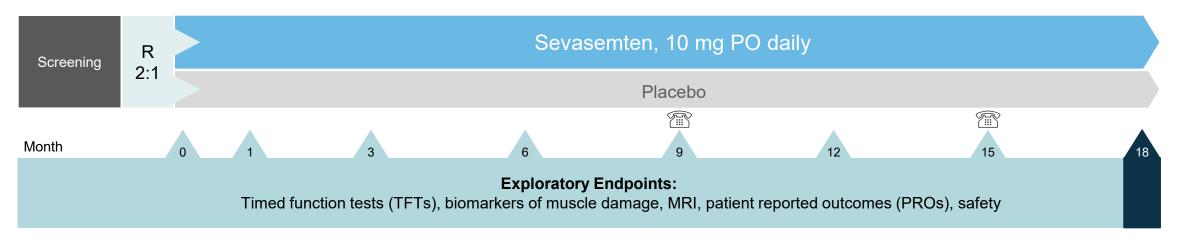
Next Steps



Global, Multi-Center, Placebo-Controlled Study of Sevasemten; Pivotal Cohort and Potentially Registrational

- Population: Adults with Becker with NSAA 5-32, not on corticosteroids
- Enrollment: 175 patients (powered to show a difference in NSAA at 18 months)
- Primary endpoint: NSAA at 18 months
- Secondary Endpoints: 100 m timed test, biomarkers of muscle damage, MRI

Study design - 18 months



Open-Label Extension Study MESA Enrolls Eligible Patients from ARCH, CANYON, GRAND CANYON, and DUNE



Phase 1 study in healthy adults and adults with Becker

Status: Complete



Phase 2 study in adults and adolescents with Becker

Status: Complete



Pivotal cohort & potentially registrational study in adults with Becker

Status: Active, not recruiting



Phase 2 study in Becker, Limb-Girdle, and McArdle adults

Status: Complete



(NCT06066580)

Open-label extension study in adults and adolescents with Becker

To date, 99% of eligible Becker participants have enrolled in MESA



Sevasemten Continues To Be Investigated In Becker



- Sevasemten was found to be well-tolerated.
- Demonstrated rapid, sustained and significant decrease in multiple biomarkers of muscle damage at 24 months.
- Stabilization of functional assessments was seen.



In enrolled BMD patients, sevasemten decreased CK and TNNI2 significantly compared to placebo during normal activity. 12 weeks of treatment also resulted in reductions in post-exercise increases in CK and TNNI2, with no effect on exercise capacity or strength.



- Sevasemten was found to also be well-tolerated, with no safety concerns identified.
- The results demonstrated a significant change from baseline in CK in the sevasemten-treated group.
- NSAA remained stable over time in the sevasemten treatment group, similar to the observations in ARCH.
- Plasma TNNI2 decreased from baseline in the sevasemten-treated group compared to placebo, averaged over months 6-12 in adults.
- CANYON is the largest interventional trial to date in Becker and the first to achieve its primary endpoint.



The functional observations from CANYON support that the GRAND CANYON pivotal cohort's primary endpoint is powered at >95% to demonstrate a statistically significant NSAA difference at 18 months.



Sevasemten continues to be investigated in an open-label extension trial to assess the long-term effects of sevasemten in individuals with Becker muscular dystrophy.

Thank you!

Thank you for joining us today!

Additionally, we would like to thank the patients, investigators, study site personnel, Edgewise Therapeutics personnel, and all of those helping to facilitate clinical trials and improve care.

To inquire about clinical trials, please email studies@edgewisetx.com or visit clinicaltrials.gov.

Connect with Edgewise at MDA!



Meet our team:

Booth #502



Hear our presentation:

Wed March 19th at 10:30am CST



Learn about our data with our many posters!