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A 2-part, randomized, double-blind, placebo-controlled study in participants with Duchenne muscular dystrophy amenable to exon 44 skipping to evaluate the safety and efficacy of ENTR-601-44 (ELEVATE-44)

Submission date	Recruitment status	[X] Prospectively registered
26/11/2024	Recruiting	[ ] Protocol
Registration date	**Overall study status**	[ ] Statistical analysis plan
12/05/2025	Ongoing	[ ] Results
Last Edited	**Condition category**	[ ] Individual participant data
02/01/2026	Genetic Diseases	[X] Record updated in last year

Plain English summary of protocol

Background and study aims

This study aims to determine if ENTR-601-44 is safe, identify any side effects, and see how well it works on Duchenne muscular dystrophy (by increasing the amount of dystrophin protein that is produced). Dystrophin helps muscles function properly. ENTR-601-44 is an investigational medication, meaning it has not been approved by the Medicines and Healthcare products Regulatory Agency (MHRA), the health authority that gives approval for new medications in the United Kingdom.

Who can participate?

This study is for ambulatory minors and adults aged 4 to 20 years old, inclusive, who were assigned male at birth, have a confirmed diagnosis of Duchenne muscular dystrophy, and have a variant of the dystrophin gene that allows ENTR-601-44 to skip exon 44.

All participants will be screened to confirm eligibility for participation. This involves providing biological samples (e.g., blood and urine) and undergoing additional physical procedures at study visits. Participants will have 2 muscle biopsies over the course of the study . Muscle biopsies are important because they allow researchers to compare whether there have been changes in the muscle as a result of the study drug. The study requires regular health check visits, which will be completed according to a schedule. During these visits, various tests will be conducted, including physical exams, heart rate, temperature, blood pressure, electrocardiogram, echocardiogram, and muscle function tests.

What does the study involve?

Participants will receive either ENTR-601-44 or a placebo (a substance with no active ingredients). At the end of the 25 weeks All participants (including those who received placebo) will continue receiving or will start receiving ENTR-601-44 in the Open Label Period. All participants will be screened to confirm eligibility for participation. This involves providing

biological samples (e.g., blood and urine) and undergoing additional physical procedures at study visits. Participants will have 2 muscle biopsies over the course of the study . Muscle biopsies are important because they allow researchers to compare whether there have been changes in the muscle as a result of the study drug. The study requires regular health check visits, which will be completed according to a schedule. During these visits, various tests will be conducted, including physical exams, heart rate, temperature, blood pressure, electrocardiogram, echocardiogram, and muscle function tests.

What are the possible benefits and risks of participating?
Participants may or may not benefit from this study.
Participation could help increase knowledge about DMD and the study medication. The possible benefit of receiving ENTR-601-44 for participants is dystrophin production may increase and improve muscle function, but there is no guarantee this will happen. This is an early study of ENTR-601-44 in individuals with DMD, and therefore information on its potential positive effects in people is limited.
Since this is an early study with the medication in humans, there is limited information on side effects. There have been studies done in laboratories on animals, there has been one other study on healthy men, and there have been studies with similar medicines. From this research, possible side effects might include issues with kidney function, blood clotting, blood cell count, and liver enzymes. There could also be side effects from the medication administration and muscle biopsies. However, researchers do not know all the side effects that could happen.

Where is the study run from?
Entrada Therapeutics, Inc. (USA)

When is the study starting and how long is it expected to run for?
July 2025 to March 2029

Who is funding the study?
The Sponsor, Entrada Therapeutics, Inc., is providing financial support and materials for this study. The study site is being paid by the Sponsor to do this study. Otherwise, the site staff including the study doctor have no financial ties to the Sponsor.

Who is the main contact?
clinicaltrials@entradatx.com

Contact information

Type(s)
Public, Scientific

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Principal investigator

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Additional identifiers

Clinical Trials Information System (CTIS)
2024-517584-23

Integrated Research Application System (IRAS)
1010840

Protocol serial number
ENTR-601-44-201

Central Portfolio Management System (CPMS)
65821

Study information

Scientific Title
A 2-part, randomized, double-blind, placebo-controlled study in participants with Duchenne muscular dystrophy amenable to exon 44 skipping with an initial multiple ascending dose part A to assess the safety, tolerability, pharmacokinetics and pharmacodynamics of ENTR-601-44, followed by Part B to evaluate the safety and efficacy of ENTR-601-44 (ELEVATE-44)

Acronym
ELEVATE-44

Study objectives
Current study objectives as of 02/01/2026:
Key Objectives (Part A and OL Period)
1. To evaluate the safety and tolerability of ENTR-601-44 in participants with Duchenne muscular dystrophy (DMD)
2. To characterize the pharmacokinetics of ENTR-601-44 in participants with DMD
3. To characterize the pharmacodynamics of ENTR-601-44 in participants with DMD
4. To evaluate the impact of ENTR-601-44 on measures of function in participants with DMD after extended dosing
5. To evaluate the immune response to ENTR-601-44 in participants with DMD

Previous study objectives:
Key Objectives (Part A)
1. To evaluate the safety and tolerability of ENTR-601-44 in participants with Duchenne muscular dystrophy (DMD)
2. To characterize the pharmacokinetics of ENTR-601-44 in participants with DMD
3. To characterize the pharmacodynamics of ENTR-601-44 in participants with DMD
4. To evaluate the immune response to ENTR-601-44 in participants with DMD

Ethics approval required
Ethics approval required

Ethics approval(s)
approved 27/01/2025, South Central - Oxford A Research Ethics Committee (Ground Floor Temple Quay House 2 The Square, Bristol, BS1 6PN, United Kingdom; +44 207 104 8118; oxforda.rec@hra.nhs.uk), ref: 24/SC/0403

Study design
Interventional double blind randomized parallel group placebo controlled trial

Primary study design
Interventional

Study type(s)
Efficacy, Safety

Health condition(s) or problem(s) studied
Duchenne muscular dystrophy (DMD)

Interventions
Part A
Experimental Arm: ENTR-601-44.
• Participants will receive a fixed number of doses at one of three dose levels. One dose will be given every six
weeks.
• Drug: ENTR-601-44: Given by IV infusion as specified under Participant Group/Arm.

Placebo Comparator Arm: ENTR-601-44 matching placebo
• Participants will receive a fixed number of placebo doses matched to ENTR-601-44 doses. One dose will be given every six weeks.
• Drug: ENTR-601-44 – Matching Placebo: Given by IV infusion as specified under Participant Group/Arm.

Added 02/01/2026:
OL Period
Experimental Arm: ENTR-601-44.
• Participants will receive a fixed number of doses at the dose level that was administered in their original cohort in Part A; or if they were on placebo, cross over to ENTR-601-44 at the dose level that was administered in their original cohort.

Intervention Type
Drug

Phase
Phase I/II

Drug/device/biological/vaccine name(s)
ENTR-601-44

Primary outcome(s)
Safety and tolerability of ENTR-601-44 measured using incidence and severity of treatment-emergent adverse events (TEAEs); changes in vital sign measurements, clinical laboratory results, electrocardiogram (ECG) parameters, physical examination findings from baseline through End of Study visit

Key secondary outcome(s))
Current secondary outcomes as of 02/01/2026:
1. Plasma, muscle, and urine concentration of ENTR-601-44 and its final metabolite at timepoints as specified in the study protocol
2. Change from baseline in dystrophin by Western blot from muscle biopsy at End of Study and Part A
3. Change from baseline in dystrophin expression and localization from muscle biopsy at End of Study and Part A
4. Percent change from baseline in exon 44 skipping measured in muscle biopsy at End of Study and Part A
5. Anti-drug antibody (ADA) and anti-dystrophin antibody in serum at Baseline, End of Study, and additional timepoints as specified in the study protocol
6. Change from baseline to End of OL Period in 10 Metre Walk/Run (10MWR)
7. Change from baseline to End of OL period in Timed Rise from Floor
8. Change from baseline to End of OL Period in Timed 4-Stair Climb (4SC)
9. Change from baseline to End of OL period in Stride Velocity 95th Centile (SV95C)
10. Change from baseline to End of OL Period in North Star
11. Change from baseline to End of OL Period in Performance of the Upper Limb v2.0 (PUL 2.0)

Previous secondary outcomes:
1. Plasma, muscle, and urine concentration of ENTR-601-44 and its final metabolite at timepoints as specified in the study protocol
2. Change from baseline in dystrophin by Western blot from muscle biopsy at End of Study
3. Change from baseline in dystrophin expression and localization from muscle biopsy at End of Study
4. Percent change from baseline in exon 44 skipping measured in muscle biopsy at End of Study
5. Anti-drug antibody (ADA) and anti-dystrophin antibody in serum at Baseline, End of Study, and additional timepoints as specified in the study protocol

Completion date
28/03/2029

Eligibility

Key inclusion criteria
Principal inclusion criteria:
1. Genetic diagnosis of DMD and confirmed pathologic variant in the dystrophin gene amenable to exon 44 skipping as reviewed by a central genetic counselor.

2. Assigned male at birth with clinical signs compatible with Duchenne muscular dystrophy as determined by the investigator.
3. Part A: 4-20 years of age, inclusive.
4. Ambulatory Status Part A: ambulatory with a Performance of the Upper Limb v2.0 (PUL 2.0) Entry as per protocol at Screening
5. Adequate muscle for obtaining tissue biopsy as assessed by the investigator.
6. Other protocol-defined criteria apply.

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Mixed

Lower age limit
4 years

Upper age limit
20 years

Sex
Male

Total final enrolment
0

Key exclusion criteria
Principal exclusion criteria:
1. Any significant concomitant medical condition that might interfere with the ability to comply with protocol
requirements.
2. Has an acute illness within 4 weeks prior to the first dose of study drug which may interfere with study measurements or jeopardize participant's safety.
3. Use of the following medications:
3.1. Prior treatment with any exon skipping therapy at any time
3.2. Prior treatment with any gene therapy at any time
3.3. Use of anti-coagulants, anti-thrombotics, or anti-platelet agents from at least 30 days prior to the start of the screening period until the end of the study
3.4. Use of an immunosuppressant for a non-DMD condition from 30 days prior to screening until the end of the study
3.5. Has taken or is currently taking a histone deacetylase (HDAC) inhibitor, including (but not limited to) givinostat from at least 30 days prior to the start of the screening period until the end of the study
4. Laboratory abnormalities.
5. Daytime ventilator dependence or any use of invasive mechanical ventilation via tracheostomy.
6. Has an abnormal electrocardiogram (ECG) reading assessed as clinically significant by the investigator, and/or a QT interval with Fridericia correction method (QTcF) >450 msec at

Screening or prior to the first dose of study drug on Day 1.
7. Received any experimental or investigational drug, etc. within 3 months prior to first dose or within 5 half-lives (whichever is longer).
8. Other protocol-defined criteria apply.

Date of first enrolment
03/07/2025

Date of final enrolment
18/08/2028

Locations

Countries of recruitment
United Kingdom

Belgium

Italy

Spain

Study participating centre
Great Ormond Street Hospital for Children
Great Ormond Street
London
England
WC1N 3JH

Study participating centre
Freeman Hospital
Freeman Road
High Heaton
Newcastle upon Tyne
England
NE7 7DN

Study participating centre
Alder Hey Children's NHS Foundation Trust
Alder Hey Hospital
Eaton Road
West Derby
Liverpool
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L12 2AP

Study participating centre
Leeds General Infirmary
Great George Street
Leeds
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LS1 3EX

Study participating centre
Royal Manchester Childrens Hospital
Hospital Road
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M27 4HA

Study participating centre
Oxford University Hospitals NHS Foundation Trust
Dep of Paediatrics Level 2 Children's Hospital, John Radcliffe, Headley Way, Headington
Oxford
England
OX3 9DU

Study participating centre
UZ Leuven
Belgium
-

Study participating centre
University Hospital Gent
Belgium
-

Study participating centre
Centre Hospitalier Régional de la Citadelle
Belgium
-

Study participating centre
IRCCS Ospedale San Raffaele
Italy
-

Study participating centre
Fondazione Serena Onlus - Centro Clinico NeMO Milano
Italy
-

Study participating centre
Fondazione Policlinico Universitario A. Gemelli IRCCS - Universita Cattolica del Sacro Cuore
Italy
-

Study participating centre
Ospedale Pediatrico Bambino Gesu
Italy
-

Study participating centre
Hospital Sant Joan de Deu
Spain
-

Study participating centre
Hospital Universitario Vall d'Hebron
Spain
-

Sponsor information

Organisation
Entrada Therapeutics, Inc.

Funder(s)

Funder type
Industry

Funder Name
Entrada Therapeutics, Inc.

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Data sharing statement to be made available at a later date, Not expected to be made available

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Study website	Study website	11/11/2025	11/11/2025	No	Yes