

# Low-dose isotretinoin versus standard-dose isotretinoin to treat severe acne in young people – the Acne-ID study

<b>Submission date</b> 26/04/2024	<b>Recruitment status</b> Recruiting	<input checked="" type="checkbox"/> Prospectively registered
<b>Registration date</b> 15/08/2024	<b>Overall study status</b> Ongoing	<input type="checkbox"/> Protocol
<b>Last Edited</b> 03/02/2026	<b>Condition category</b> Skin and Connective Tissue Diseases	<input type="checkbox"/> Statistical analysis plan
		<input type="checkbox"/> Results
		<input type="checkbox"/> Individual participant data
		<input checked="" type="checkbox"/> Record updated in last year

## Plain English summary of protocol

### Background and study aims

Although many teenagers experience acne, around 1 in 10 people get severe acne that can also scar the skin. Having acne on your face and body as a young person can affect your confidence, sometimes leading to low mood and anxiety. There is an effective treatment for severe acne called isotretinoin, which is a licenced drug. Although isotretinoin works well at clearing acne, most people who take it experience side effects and some people will experience more than one. One way to potentially reduce these side effects is to give a lower dose of isotretinoin possibly over a longer period of time. We want to be sure a lower dose possibly taken for longer clears acne as effectively as the standard dose and find out if people are happy to take the tablets for a longer period of time. It is also possible that if the acne is not fully treated at a lower dose, it may come back after stopping treatment sooner than normal, so we also need to check that out. This trial involves two groups of patients. One group will take the dose of isotretinoin usually prescribed (standard dose) and the other a lower dose. Patients will not get to choose which group you go into. Due to how isotretinoin works, there is a possibility that the dose may change throughout the treatment course.

### Who can participate?

Young people aged 12-24 years with severe acne who have not previously been treated with isotretinoin. Patients will only be approached to join the trial once the joint decision between patient and doctor has been made to start isotretinoin.

### What does the study involve?

This study will compare the advantages and disadvantages of two different doses of isotretinoin for people with severe acne – a lower dose, possibly taken for a longer time, or a dose usually prescribed (standard dose) over a shorter duration. The researchers will be comparing how effective the two different doses are at treating acne and we will record side effects and other measures such as how patients feel their acne has changed, how the acne is affecting their life, satisfaction with treatment and any changes in mood.

What are the possible benefits and risks of participating?

Following the new MHRA guidance around isotretinoin, many activities such as blood tests, monitoring of side effects and the Pregnancy Prevention Program have been confirmed as part of usual care. This is a pragmatic trial and the researchers are closely following the usual care pathway. Patients will only be approached to join the trial once a joint decision between the patient and clinician has been reached to begin oral isotretinoin. There are no additional visits for participants, these will follow the pattern of usual care visits.

Isotretinoin is a long-standing treatment for acne and as such participants will have no greater risk than standard

care. If participants experience side effects, these will be assessed as part of their usual clinic visits and the clinician will manage their treatment accordingly, as per standard care. If a participant triggers a response of concern in the questionnaire within one month of stopping isotretinoin, participants will be sign-posted to their GP/urgent care.

In follow-up the questionnaires have been reduced to minimise the time burden on participants. All trial data has been considered so that the researchers are only asking what is needed for the trial.

A small number of participants will be asked to take part in qualitative interviews about isotretinoin (around 30 participants), however this will be optional.

Due to the risks associated with isotretinoin in patients of childbearing potential, patients will be asked to take part in the Pregnancy Prevention Programme (if relevant) as per the MHRA Acknowledgement of Risk form. This will be discussed as part of usual care/isotretinoin education, and it is clearly stated in the PIS that participants must not become pregnant whilst on isotretinoin.

Where is the study run from?

Queens Medical Centre, Nottingham (UK)

When is the study starting and how long is it expected to run for?

April 2024 to August 2028

Who is funding the study?

NIHR Health Technology Assessment Programme (UK)

Who is the main contact?

Acne-id@nottingham.ac.uk

## Contact information

### Type(s)

Scientific, Principal investigator

### Contact name

Dr Esther Burden-Teh

### Contact details

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**Type(s)**  
Scientific

**Contact name**  
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## **Additional identifiers**

**Clinical Trials Information System (CTIS)**  
Nil known

**Integrated Research Application System (IRAS)**  
1009472

**Protocol serial number**  
24010, IRAS 1009472

## **Study information**

**Scientific Title**  
Investigating the benefits and harms of reduced daily dose oral isotretinoin in the treatment of acne: a parallel group, assessor blind, non-inferiority, multicentre randomised controlled trial, with an internal pilot

**Acronym**  
ACNE-ID

**Study objectives**  
Primary objective:  
To investigate whether a low-dose isotretinoin strategy is non-inferior to standard-care dose for clearance of acne at the end of treatment.

Secondary objectives:  
1. To investigate the benefits and harms of a low-dose isotretinoin strategy compared to

standard-care dose in relation to side effects, satisfaction with treatment, quality of life, and acne recurrence

2. To establish the health economic implications of the two isotretinoin dosing strategies (technical efficiency)

3. To develop a clinical support tool to aid shared decision-making when initiating isotretinoin treatment

### **Ethics approval required**

Ethics approval required

### **Ethics approval(s)**

approved 02/08/2024, East Midlands, Nottingham 2 REC (The Old Chapel, Royal Standard Place, Nottingham, NG1 6FS, United Kingdom; +44 (0)207 104 8009; nottingham2.rec@hra.nhs.uk), ref: 24/EM/0111

### **Study design**

Open randomized controlled parallel-group non inferiority trial

### **Primary study design**

Interventional

### **Study type(s)**

Treatment

### **Health condition(s) or problem(s) studied**

Acne

### **Interventions**

This trial is a comparison of two dosing strategies.

Low-dose strategy (intervention):

Oral isotretinoin 0.25 mg/kg/day (within a range of 0.2-0.3 mg/kg/day). At 6 months, if there has been insufficient improvement, the dose can be increased to <0.5 mg/kg/day. Low-dose strategy may have a longer treatment duration (anticipated 6-12 months).

Standard-dose strategy (comparator)

Oral isotretinoin  $\geq 0.5$  mg/kg day and dose titration up to 1 mg/kg/day over 1-2 months, unless clinically contraindicated. Aim for a minimum of 0.7 mg/kg/day. The typical treatment duration for the standard-dose strategy is 6 months.

The end of the treatment course for each strategy will be when the first of the following criteria is met:

1. Participants have no new inflammatory lesions for a minimum of 4 weeks; this is a shared decision between the participant and a health professional or
2. A maximum cumulative dose of 150 mg/kg is reached or
3. A total of 12 months duration on the medication or
4. A participant and/or clinician decision to stop isotretinoin even when there has not been a satisfactory outcome e.g. due to side effects
5. A participant becomes pregnant

Participants who reach 150 mg/kg/day cumulative dose or 12 months duration of treatment and continue to have new inflammatory lesions will be treated according to routine clinical care.

## **Intervention Type**

Drug

## **Phase**

Phase IV

## **Drug/device/biological/vaccine name(s)**

Isotretinoin

## **Primary outcome(s)**

The proportion of participants achieving clearance of acne, defined as “clear or almost clear” at the end of their treatment course. Treatment success (clearance of acne) is defined as ‘clear or almost clear’, assessed using a blinded Investigator Global Assessment (IGA) using the Comprehensive Acne Severity Scale (CASS). The end of the active treatment period is defined as:

1. When participants have no new inflammatory lesions for a minimum of 4 weeks; this is a shared decision between the participant and a health professional or
2. A maximum cumulative dose of 150 mg/kg is reached or
3. A total of 12 months duration on the medication (whichever happens sooner) or
4. A participant and/or clinician decision to stop isotretinoin even when there has not been a satisfactory outcome (e.g. because of side effects)

## **Key secondary outcome(s)**

1. Blinded investigator assessed acne severity, assessed using Investigator Global Assessment (IGA) using the Comprehensive Acne Severity Scale (CASS) at baseline, 1, 3, 5-6, 8-10 months and end of treatment
2. Time to treatment success (clearance of acne) defined as “clear or almost clear” using the Comprehensive Acne Severity Scale (CASS) at the end of their treatment course.
3. Patient-reported acne severity assessed using the Patient Global Assessment (PGA) - baseline then monthly until end of treatment, and monthly in the follow-up phase
4. Patient-reported change in acne assessed using bespoke question at month 3 and end of treatment
5. Tolerability of side effects, assessed using the Modified British Association of Dermatologists side effect questionnaire – monthly until the end of treatment, then 1 month and 12 months in the follow-up phase
6. Acne health related quality of life assessed using the Acne Specific Quality of Life Questionnaire (Acne-QoL) at baseline, 3, 6, 9 months and end of treatment course
7. Patient satisfaction with treatment assessed using the Treatment Satisfaction Questionnaire for Medicine (TSQM) at month 3 and end of treatment course
8. Referral for a mental health assessment and/or cessation of isotretinoin due to concerns with mood, collected from medical notes at 1, 3, 5-6, 8-10 months and end of treatment course, or at any other time in the active treatment phase
9. Referral for a mental health assessment and/or dose reduction of isotretinoin, collected from medical notes, at 1, 3, 5-6, 8-10 months and end of treatment course, or at any other time in the active treatment phase
10. Patient-reported depression score assessed using Patient Health Questionnaire (PHQ-9/9a) monthly until the end of treatment and 1 month after stopping treatment
11. Patient-reported anxiety score assessed using the General Anxiety Disorder (GAD-7)

- questionnaire monthly until the end of treatment and 1 month after stopping treatment
12. Recurrence in acne within 12 months of stopping oral isotretinoin, assessed using a bespoke question monthly in the follow-up phase for those participants who achieved acne clearance by the end of their isotretinoin treatment
  13. Time to recurrence in acne, assessed using patient report via bespoke question via remote follow-up questionnaire
  14. Personal costs measured using bespoke questionnaire monthly until the end of treatment, and monthly in the follow-up phase
  15. Health care resource use measured using a bespoke questionnaire monthly until the end of treatment course, and monthly in the follow-up phase

### **Completion date**

30/08/2028

## **Eligibility**

### **Key inclusion criteria**

Current inclusion criteria as of 22/08/2025:

1. Age 12 years to 24 years.
2. Acne of the face +/- trunk.
3. Meets the MHRA definition of severe forms of acne (including acne at risk of permanent scarring).
4. Able to give consent or child assent with parental consent
5. Clinical decision to start treatment with oral isotretinoin
6. Medicines and Healthcare products Regulatory Agency (MHRA) risk acknowledgment form completed by the treating clinician
7. Willing to be randomised to either treatment group
8. Willing and able to complete the trial questionnaires

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Previous inclusion criteria:

1. Clinical diagnosis of severe acne (including acne at risk of scarring) of the face +/- trunk
2. Acne that has failed to respond to at least one 12-week minimum course of oral antibiotics in combination with a topical treatment
3. Age  $\geq 12$  years to  $< 25$  years
4. Able to give consent or child assent with parental consent
5. Clinical decision to start treatment with oral isotretinoin
6. Medicines and Healthcare products Regulatory Agency (MHRA) risk acknowledgment form completed by the treating clinician
7. Willing to be randomised to either treatment group
8. Willing and able to complete the trial questionnaires

### **Participant type(s)**

Patient

### **Healthy volunteers allowed**

No

**Age group**

Mixed

**Lower age limit**

12 years

**Upper age limit**

24 years

**Sex**

All

**Total final enrolment**

0

**Key exclusion criteria**

1. Contraindication to isotretinoin as per clinician assessment in routine care (e.g. severe mood concerns on screening, refusal to sign the Acknowledgement of Risk Form and enter the Pregnancy Prevention Programme if has childbearing potential (pregnant, or breastfeeding or Intention to become pregnant), concomitant medications with an interaction with isotretinoin)
2. Acne fulminans, acne conglobata or other acne subtype unsuitable for higher dose strategy
3. Previously been treated with oral isotretinoin
4. Known allergy or sensitivity to isotretinoin or any of its excipients

**Date of first enrolment**

01/12/2024

**Date of final enrolment**

31/05/2026

**Locations****Countries of recruitment**

United Kingdom

England

Wales

**Study participating centre**

**Queens Medical Centre, Nottingham University Hospital**

Derby Road

Nottingham

England

NG7 2UH

**Study participating centre**

**Ashford Hospital**

Ashford Hospital  
Kings Avenue  
Ashford  
England  
TN23 1LX

**Study participating centre****Harrogate & District NHS Foundation Trust**

Strayside Wing  
Harrogate District Hospital  
Lancaster Park Road  
Harrogate  
England  
HG2 7SX

**Study participating centre****Norfolk & Norwich Hospital Laboratory**

Norfolk & Norwich Uni Hospital  
Colney Lane  
Colney  
Norwich  
England  
NR4 7UY

**Study participating centre****Swansea Bay University Local Health Board**

Tonna Hospital  
Tonna Uchaf  
Tonna  
Neath  
Wales  
SA11 3LX

**Study participating centre****University Hospital Southampton NHS Foundation Trust**

Southampton General Hospital  
Tremona Road  
Southampton  
England  
SO16 6YD

**Study participating centre**  
**Epsom and St Helier University Hospitals NHS Trust**  
St Helier Hospital  
Wrythe Lane  
Carshalton  
England  
SM5 1AA

**Study participating centre**  
**Chesterfield Royal Hospital NHS Foundation Trust**  
Chesterfield Road  
Calow  
Chesterfield  
England  
S44 5BL

**Study participating centre**  
**Pinderfields General Hospital**  
Aberford Road  
Wakefield  
England  
WF1 4DG

**Study participating centre**  
**University Hospitals Bristol and Weston NHS Foundation Trust**  
Bristol Royal Infirmary  
Marlborough Street  
Bristol  
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BS2 8HW

**Study participating centre**  
**Hull University Teaching Hospitals NHS Trust**  
Hull Royal Infirmary  
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HU3 2JZ

**Study participating centre**

**London North West University Healthcare NHS Trust**  
Northwick Park Hospital  
Watford Road  
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**Study participating centre**  
**Brighton and Sussex University Hospitals NHS Trust**  
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**Study participating centre**  
**East Lancashire Teaching Pct**  
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## **Sponsor information**

**Organisation**  
University of Nottingham

**ROR**  
<https://ror.org/01ee9ar58>

## **Funder(s)**

**Funder type**  
Government

**Funder Name**  
Health Technology Assessment Programme

## Alternative Name(s)

NIHR Health Technology Assessment Programme, Health Technology Assessment (HTA), HTA

## Funding Body Type

Government organisation

## Funding Body Subtype

National government

## Location

United Kingdom

# Results and Publications

## Individual participant data (IPD) sharing plan

The full trial protocol and all study documentation is available on request. The datasets analysed during this trial will be available to researchers upon request from the NCTU (ctu@nottingham.ac.uk), a minimum of 12 months after publication of this paper. Access to the data will be subject to review of a data sharing and use request by a committee including the CI and sponsor and will only be granted upon receipt of a data sharing and use agreement. Any data shared will be de-identified which may impact on the reproducibility of published analyses. All requests for data should be sent to the Nottingham Clinical Trials Unit'

The datasets containing individual participant data analysed during the Acne-ID trial will be available upon request from the NCTU (ctu@nottingham.ac.uk) a minimum of 12 months after publication of this main results paper. Access to the data will be subject to review of a data sharing and use request by a committee including the Chief Investigator and Sponsor and will only be granted upon receipt of a data sharing and use agreement. Any data shared will be pseudo-anonymised which may impact on the reproducibility of published analyses.

## IPD sharing plan summary

Available on request

## Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Participant information sheet</a>	Participant information sheet	11/11/2025	11/11/2025	No	Yes
<a href="#">Study website</a>	Study website	11/11/2025	11/11/2025	No	Yes