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Dilute povidone-iodine irrigation versus normal saline irrigation in preventing surgical site infection after appendectomy for perforated appendicitis

Submission date 21/03/2026	**Recruitment status** No longer recruiting	[_] Prospectively registered [X] Protocol
Registration date 04/04/2026	**Overall study status** Completed	[_] Statistical analysis plan [_] Results
Last Edited 07/05/2026	**Condition category** Digestive System	[_] Individual participant data [X] Record updated in last year

Plain English summary of protocol
Plain English summary of protocol not provided at time of registration

Contact information

Type(s)
Principal investigator, Scientific, Public

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Additional identifiers

Study information

Scientific Title
Dilute povidone-iodine irrigation versus normal saline irrigation in preventing surgical site infection after appendectomy for perforated appendicitis: a randomized controlled trial

Acronym
POVI-SSI

Study objectives
This study aims to compare two commonly used solutions, dilute povidone-iodine and normal saline, for cleaning the surgical wound during appendectomy in patients with perforated appendicitis. Surgical site infection is a common complication after this type of surgery, especially in severe cases. Patients were randomly assigned to receive either povidone-iodine or normal saline irrigation during surgery. The study evaluates which method is more effective in reducing wound infections and improving patient outcomes after surgery.

Ethics approval required
Ethics approval required

Ethics approval(s)
approved 27/02/2017, The Ethics and Research Committee at the University of Port Harcourt Teaching Hospital (UPTH) (East-West Road, Port Harcourt, 500102, Nigeria; -; info@upthng.com), ref: UPTH/ADM/90/S.II/VOL.XI/374

Primary study design
Interventional

Allocation
Randomized controlled trial

Masking
Blinded (masking used)

Control
Active

Assignment
Parallel

Purpose
Treatment

Study type(s)

Health condition(s) or problem(s) studied
Perforated appendicitis requiring appendectomy

Interventions
Randomisation was performed using a computer-generated random sequence with allocation concealment via sealed opaque envelopes. Participants were randomly assigned to one of two groups:
Group A received dilute povidone-iodine irrigation of the surgical wound before closure, while

Group B received normal saline irrigation before wound closure during appendectomy for perforated appendicitis.

Intervention Type
Procedure/Surgery

Primary outcome(s)
1. Surgical site infection within 30 days following appendectomy measured using clinical assessment data, based on standard diagnostic criteria, including the presence of purulent discharge, wound erythema, swelling, tenderness, or wound dehiscence at one timepoint at the end of the trial

Key secondary outcome(s))
1. Length of hospital stay and postoperative complications during the hospital stay and within 30 days postoperatively measured using data recording the number of days from surgery to discharge, and clinical assessment data, based on the occurrence of any adverse events following surgery, at one timepoint at the end of the trial

Completion date
31/12/2021

Eligibility

Key inclusion criteria
1. Adult patients (≥18 years)
2. Diagnosed with perforated appendicitis, undergoing emergency appendectomy
3. Provided informed consent

Healthy volunteers allowed
No

Age group
Mixed

Lower age limit
18 years

Upper age limit
100 years

Sex
All

Total final enrolment
120

Key exclusion criteria

1. Patients with non-perforated appendicitis
2. Those with previous abdominal surgery
3. Patients with significant immunosuppression or severe comorbidities
4. Those who did not provide informed consent

Date of first enrolment
01/12/2019

Date of final enrolment
31/12/2020

Locations

Countries of recruitment
Nigeria

Sponsor information

Organisation
University of Port Harcourt Teaching Hospital

ROR
https://ror.org/01qv3ba61

Funder(s)

Funder type

Funder Name
University of Port Harcourt Teaching Hospital

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not expected to be made available

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Protocol file			07/05/2026	No	No