

Evaluation of outcomes after spinal fusion surgery using a titanium-secured cage

Submission date 20/02/2023	Recruitment status No longer recruiting	<input type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
Registration date 09/03/2023	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
Last Edited 09/03/2023	Condition category Musculoskeletal Diseases	<input type="checkbox"/> Individual participant data <input type="checkbox"/> Record updated in last year

Plain English summary of protocol

Background and study aims

Degenerative Disc Disease (DDD) is a condition where the discs that separate and cushion the vertebrae in the spine break down and lose their ability to absorb shock. This can cause pain, stiffness, and reduced mobility in the back or neck.

Anterior lumbar interbody fusion (ALIF) with cages is a surgical procedure used to treat certain conditions of the lower back, such as degenerative disc disease, herniated discs, or spinal instability. During the procedure, the surgeon makes an incision in the front of the abdomen, and the affected disc is removed from between the vertebrae. A cage made of bone, metal, or plastic is then inserted into the space left by the removed disc. The cage is packed with bone graft material, which over time grows and fuses the adjacent vertebrae together, stabilizing the spine. The use of cages in ALIF procedures has been a well-established technology for several decades and has been found to be effective in treating certain conditions of the lower back. Recently, cages with integrated fixation have been used to make the devices safer and more effective in promoting fusion. SCARLET® AL-T is a device that was introduced in 2019 and is categorized as a stand-alone anterior interbody device with integrated screws. It has been shown that this type of device is effective in treating Degenerative Disk Disease. The purpose of a non-interventional, observational study is to collect real-world evidence on the safety and clinical benefits of SCARLET® AL-T for 24 months after surgery. The goal is to confirm that the SCARLET® AL-T system is safe and effective for long-term clinical benefits and radiographic outcomes after stand-alone anterior lumbar interbody fusion surgery.

Who can participate?

Any adults (at least 18 years old) needing lumbar interbody fusion surgery for DDD who received the SCARLET®AL-T system as intended therapy.

What does the study involve?

The pre-operative data and surgical data will be collected retrospectively, the post-operative data at 3, 6 and 12 months will be collected either retrospectively or prospectively, and the 24-month post-operative data will be collected prospectively.

CT scans will be performed to assess fusion and stability over time as per standard of care.

Patient questionnaires will be completed by patients to collect clinical data and evaluate changes in pain, disability and improvement between baseline and post-operation as per standard of care.

What are the possible benefits and risks of participating?

As this study is non-interventional and consists of the collection of data following the site standard of care, there is no risk for the patients and no anticipated benefits. Information obtained will be used to confirm the safety and efficacy of the device as part of the Post-Market surveillance.

Where is the study run from?

Spineart SA (Switzerland)

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

November 2019 to December 2024

Who is funding the study?

Spineart SA (Switzerland), manufacturer of the SCARLET®AL-T system.

Who is the main contact?

clinic@spineart.com

Contact information

Type(s)

Scientific

Contact name

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Contact details

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Additional identifiers

Clinical Trials Information System (CTIS)

Nil known

ClinicalTrials.gov (NCT)

Nil known

Protocol serial number

P76_CLD001

Study information

Scientific Title

Clinical and radiographic evaluation of the lumbar Scarlet AL-T cage outcomes within 24 months postoperatively

Acronym

SCARLET AL-T study

Study objectives

Clinical and radiographic evaluation of the lumbar Scarlet AL-T cage outcomes

Ethics approval required

Old ethics approval format

Ethics approval(s)

Approved 27/01/2021, CPP Est IV (1, place de l'Hôpital, 6091 Strasbourg, France; +41 3 88 11 60 03; cpp.est@14chru-strasbourg.fr), ref. SI 20_08_17_37523

Study design

Observational registry single center study

Primary study design

Observational

Study type(s)

Treatment

Health condition(s) or problem(s) studied

Surgical treatment of Degenerative Disk Diseases (DDD)

Interventions

The SCARLET®AL-T system may be implanted via an open or a minimally invasive anterior approach. As part of an observational study, the SCARLET®AL-T system should be implanted with an ALIF surgical approach per the site standard of care.

Once the patient agreed to participate, the non-opposition process has been completed, eligibility criteria has been confirmed, the following data are collected retrospectively: preoperative visit (V0), surgery (V1), and discharge (V2).

The screening visit may be combined with the 3-month (V4), 6-month (V5) or 12-month (V6) post-operative follow-up visit. Depending on when the patient was included (at 3-, 6- or 12-month visit), these data are either collected prospectively or retrospectively.

The 24-month (V7) visit is always collected prospectively.

Total duration of follow-up: the patients' participation in the study will last from 12 to 21 months after his 1st visit (3-, 6- or 12- Month post-procedure).

Total duration of observation: from preoperative visit to 24- month so around 25 months (depending when was done the preoperative visit).

Intervention Type

Device

Phase

Phase IV

Drug/device/biological/vaccine name(s)

SCARLET®AL-T system

Primary outcome(s)

Evaluate SCARLET®AL-T system performance by assessing interbody fusion by CT scan at 24 months post-operatively.

Key secondary outcome(s)

1. Assessment of fusion at 3, 6, and 12 months post-operatively by CT-scan.
2. Stability at 3, 6, 12 and 24 months post-operatively by assessing the subsidence, visible vertebrae endplate fracture and device mobility.
3. Safety assessment: Adverse Events. All perioperative and postoperative adverse events will be assessed for relationship to device and procedure, seriousness, incidence and time to resolution or re-operation. Incidence of re-intervention at the treated level will be assessed.
4. Disability and Change in Disability for low back pain. Obtaining improvement in Oswestry Disability Index (ODI) disease-specific questionnaire up to 24 months following the procedure, as compared to patient's baseline. Mean change in score of the ODI from baseline (the preoperative status) to 3-, 6-, 12- and 24-months postoperative values.
5. Pain and Change in Pain (Back and Leg): obtaining improvement in Visual Analogue Scale (VAS) Back and Leg pain scores up to 24 months following the treatment as compared to patient's baseline. Mean change in score of the VAS from baseline (the preoperative status) to 3-, 6-, 12- and 24-months postoperative values.
6. Patient satisfaction at 3-, 6-, 12- and 24-months postoperative based on the PRO (SF-12).
7. Evaluation of Spineart's instrumentation supporting the surgery, enabling the implanted device to perform according to its intended use, in terms of safety and performance

Completion date

31/12/2024

Eligibility**Key inclusion criteria**

1. Age 18 years minimum
2. Treated by interbody fusion with SCARLET®AL-T system
3. Non opposition letter signed

Participant type(s)

Patient

Healthy volunteers allowed

No

Age group

Adult

Lower age limit

18 years

Sex

All

Key exclusion criteria

1. Patient lacking capacity to follow postoperative care instructions due to mental state (suffering from dementia and others)
2. Infection
3. Severely damaged bone structures that could prevent stable implantation of the cage
4. Neuromuscular or vascular disorders or illness
5. Inadequate activity
6. Pregnancy
7. Bone tumor in the region of implant
8. Fractures

Date of first enrolment

06/05/2021

Date of final enrolment

13/06/2022

Locations**Countries of recruitment**

France

Study participating centre

Clinique du Parc, CCV MONTPELLIER

50 Rue Emile Combes

Castelnau Le Lez

France

34170

Sponsor information**Organisation**

Spineart SA

Funder(s)**Funder type**

Industry

Funder Name
Spineart SA

Results and Publications

Individual participant data (IPD) sharing plan

For the moment, data-sharing plans are unknown. In the meantime, the datasets generated during and/or analysed during the current study will be available upon request from clinic@spineart.com. Consent requested from participants was required and obtained.

IPD sharing plan summary

Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes