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# Comparing the results of using strut bone graft from the iliac bone and cancellous bone graft from the iliac bone on large bone defects in the lower body

**Submission date**
13/02/2023

**Recruitment status**
No longer recruiting

**Registration date**
15/03/2023

**Overall study status**
Completed

**Last Edited**
28/02/2023

**Condition category**
Musculoskeletal Diseases

[ ] Prospectively registered
[ ] Protocol
[ ] Statistical analysis plan
[ ] Results
[ ] Individual participant data
[ ] Record updated in last year

## Plain English summary of protocol

Background and study aims
This study is looking at a new way to fix large bone defects in the lower body using bone graft from the iliac bone. In the past, using simple bone grafting has not been successful for fixing large bone defects. This study will compare using a strut-type bone graft from the iliac bone to using a cancellous bone graft from the iliac bone. The goal is to see if the strut-type bone graft is a good solution with fewer complications.

Who can participate?
Patients over 18 years of age with bone defects in the long bones of the lower extremity, treated by autogenous iliac bone graft (AIBG)

What does the study invlove?
Analyzing the outcomes of autogenous strut bone graft in large bone defects of ≥ 5 cm in the lower extremities and to compare it with the autogenous cancellous bone graft, which is accepted as the golden standard of treatment in bone defects of < 5 cm.

What are the possible benefits and risks of participating?
You can receive specialized treatment for bone defects in the lower limbs. Complications may occur during treatment, including infection, bleeding, pain, and damage to nerves and blood vessels.

Where is the study run from?
Hanyang University Seoul Hospital, 222-1 Wangsimni-ro, Seongdong-gu, Seoul 04763 KOREA

When is the study starting and how long is it expected to run for?
This study is a retrospective study, and all data collection and analysis were completed in December 2021, starting with the study design plan in December 2019.

Who is funding the study?
Investigator initiated and funded

Who is the main contact?
Professor Kyu Tae Hwang, M.D, Ph.D.
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# Contact information

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Principal investigator

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# Additional identifiers

### Protocol serial number
2021-05-039

# Study information

### Scientific Title
The impact of autogenous iliac strut bone graft on large bone defect of lower extremity compared with autogenous iliac cancellous bone graft: a retrospective cohort study

### Acronym
Strut AIBG

### Study objectives
Autogenous bone graft in strut form might show favorable union rate in large bone defects of ≥ 5 cm with minimal complications

### Ethics approval required
Old ethics approval format

### Ethics approval(s)
Approved 02/05/2021, Hanyang University Hospital Instituional review board (222-1 Wangsimni-ro, Seongdong-gu, Seoul, 04763, South KOREA; +82 (2)2290 9651; icshin@hanyang.ac ), ref: HYUH 2021-05-039

### Primary study design
Interventional

### Study design
Single center interventional non-randomized retrospective cohort study

### Study type(s)
Treatment

### Health condition(s) or problem(s) studied
Performing autogenous strut bone graft in patients with large bone defects of ≥ 5 cm in the lower extremities.

### Interventions
Based on the types of the grafted bone, the patients were classified into two groups: strut bone graft group and cancellous bone graft group. All bone grafts were harvested along the anterior iliac crest through the anterior approach. The strut-type corticocancellous bone graft was harvested using an osteotome, and a cortical window was used for harvesting the cancellous bone graft. Strut bone graft was performed only when the bone defect length was ≥ 5 cm. All of the bone graft procedures were performed by a single orthopedic trauma surgeon.

### Intervention Type
Procedure/Surgery

### Primary outcome(s)
Union and time to union were evaluated using a Radiographic Union Scale of Tibial Fractures (RUST) at 1, 2, 3, 6, 9, and 12 months postoperatively.

### Key secondary outcome(s)

1. Complications measured retrospective medical record review over admission and outpatient follow-up period
2. Reoperations measured using retrospective medical record review over admission and outpatient follow-up period

### Completion date
01/12/2021

## Eligibility

### Key inclusion criteria
1. Bone defects in the long bones of the lower extremity
2. Bone defects treated by autogenous iliac bone graft
3. Age over 18 years

### Participant type(s)
Patient

### Healthy volunteers allowed
No

### Age group
Adult

### Lower age limit
18 Years

### Sex
All

### Total final enrolment
50

### Key exclusion criteria
1. Age younger than 18 years
2. Bone defects caused by pathologic fracture or tumor resection
3. Less than 12 months of follow-up period

### Date of first enrolment
23/03/2011

### Date of final enrolment
02/04/2020

## Locations

### Countries of recruitment
Korea, South

**Study participating centre**
**Hanyang University Soeul Hospital**
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# Sponsor information

**Organisation**
Hanyang University Seoul Hospital

**ROR**
https://ror.org/04n76mm80

# Funder(s)

**Funder type**
Other

**Funder Name**
Investigator initiated and funded

# Results and Publications

**Individual participant data (IPD) sharing plan**
The datasets generated during and analysed during the current study will be available upon request from Kyu Tae Hwang, M.D., Ph.D, e-mail: md0713@hanmail.net

**IPD sharing plan summary**
Available on request