GAIT ANALYSIS AFTER TOTAL HIP ARTHROPLASTY
Comparison between the anterior and posterolateral approach. A pilot study.

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To conduct a pilot study to determine the best way to analyse gait and muscle function following anterior and posterolateral approach for THA.

Ethical review	Approved WMO
Status	Recruiting
Health condition type	Joint disorders
Study type	Interventional

Summary

ID

NL-OMON45463

Source
ToetsingOnline

Brief title
Gait analyses after THA

Condition

- Joint disorders

Synonym
Osteoarthritis of the hip

Research involving
Human

Sponsors and support

Primary sponsor: Martini Ziekenhuis
Source(s) of monetary or material Support: Maatschap Orthopedie

Intervention

Keyword: Anterior approach, Gait analysis, Posterolateral approach, Total hip arthroplasty

Outcome measures

Primary outcome

Measurements will take place preoperatively and 6 weeks postoperative. The main study parameter will be the ground reaction force (GRF) during the stance phase of the patients* gait. These forces give indirect information about the load in the hip joint during gait. Additionally, motion analysis measurements will be performed to assess the movement of the body during gait. Finally, electromyography (EMG) measurements will be performed to measure muscle activity during gait.

Secondary outcome

None

Study description

Background summary

Total hip arthroplasty (THA) remains one of the most successful orthopaedic interventions of the last decades, with 10-year survival now exceeding 95%. Because of the ageing and the increasing obesity in Western societies, it is expected that the number of THAs will only rise in the future. Driven by this growing demand for THA, together with a greater emphasis on cost-effectiveness in health care and patients* higher expectations of shorter hospital stays and faster recovery, alternative surgical procedures have been developed to improve the success of THA. The anterior approach for THA is one of these developments. Compared to conventional approaches for THA, such as the posterolateral approach, the anterior approach for THA is considered to result in less damage to soft tissues, such as muscles and tendons, during surgery in order to enhance postoperative recovery and, consequently, in an accelerated return to normal daily functioning. To assess whether the proposed increase in muscle damage is of any clinical influence, gait analysis can be performed. Gait

analysis is the most reliable way to measure patients* function postoperatively. Furthermore, muscle activity measurements can be used to identify any existing differences. However, there is a lack of evidence on the best way to assess muscle damage after THA.

Study objective

To conduct a pilot study to determine the best way to analyse gait and muscle function following anterior and posterolateral approach for THA.

Study design

A prospective non-randomized pilot study will be performed. The patients will be allocated to undergo THA by either the anterior of the posterolateral approach. The choice for approach will be made by the treating orthopaedic surgeon in close dialogue with the

Intervention

Patients in the study group will undergo THA using the minimally invasive single-incision anterior approach. This approach will be compared to the conventional posterolateral approach.

Study burden and risks

Since both the anterior and posterolateral approach for THA are standard approaches for THA, no additional risks are associated with participation of the study. With gait function, walking pattern of the patients is assessed. Patients do not have to perform motor tasks which they are not used to perform. Furthermore, no invasive procedures are performed during motion analysis and EMG measurements. So no risks are involved with the gait function measurements.

Contacts

Public
Martini Ziekenhuis

van Swietenplein 1
Groningen 9728NT
NL
Scientific
Martini Ziekenhuis

van Swietenplein 1

Groningen 9728NT
NL

Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Adults (18-64 years)
Elderly (65 years and older)

Inclusion criteria

- Age between 18 - 90 years;
- Indication for THA is primary or secondary symptomatic osteoarthritis

Exclusion criteria

- A history of previous surgery on the ipsilateral hip; - symptomatic osteoarthritis of the contralateral hip; - a hip prosthesis at the contralateral side <= 2 years before; - symptomatic osteoarthritis of the knee; - peripheral neuropathy; - (active) arthritis (e.g. rheumatic disease); - a history of CVA; - COPD GOLD III or IV - NYHA class III or IV - cognitive impairments;

Study design

Design

Study type:	Interventional
Intervention model:	Other
Allocation:	Non-randomized controlled trial
Masking:	Open (masking not used)

Control:	Active
Primary purpose:	Other

Recruitment

NL

Recruitment status:	Recruiting
Start date (anticipated):	01-02-2017
Enrollment:	12
Type:	Actual

Ethics review

Approved WMO

Date:	15-06-2017
Application type:	First submission
Review commission:	RTPO, Regionale Toetsingscie Patientgebonden Onderzoek (Leeuwarden)

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register	ID
CCMO	NL60334.099.17