Dynamic Computed Tomography for assessment of Knee Rotational Stability after Anterior Cruciate Ligament Injury

Gepubliceerd: 23-08-2019 Laatst bijgewerkt: 18-08-2022

It is possible to measure knee rotational stability of ACL deficient compared to ACL intact knees using dynamic-CT.

Ethische beoordeling	Positief advies
Status	Werving nog niet gestart
Type aandoening	-
Onderzoekstype	Observationeel onderzoek, zonder invasieve metingen

Samenvatting

ID

NL-OMON24497

Bron
Nationaal Trial Register

Verkorte titel
DYCK

Aandoening

Anterior cruciate ligament injury

Ondersteuning

Primaire sponsor: Academic Hospital, ErasmusMC and IJsselland Hospital.
Overige ondersteuning: Academic hospital EMC

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

Difference in rotational stability of the ACL deficient and normal knee in degrees

Toelichting onderzoek

Achtergrond van het onderzoek

Rationale: Anterior cruciate ligament (ACL) injury is one of the most common serious knee injuries in the young athlete. The ACL provides stability of the knee in anterior-posterior direction as well as in rotation. There has been a lot of development in ACL reconstruction surgery techniques the past decade. The reconstruction of the ACL complies two main goals, namely: restoration of anterior to posterior stability and restoration of rotational stability. Restoration of anterior to posterior stability can be achieved by reconstruction surgery of the ACL, though it is not well known what influence the ACL reconstruction has on rotational stability of the knee. One of the reasons the ACL reconstruction fails is assumed to be persistent rotational instability of the knee after ACL reconstruction. Though, we cannot measure the rotational stability of the knee reliable for there is currently no reliable technique available. New generation CT scanners (dynamic-CT) make it possible to assess moving joints in a quantitative manner, as is already been shown in the wrist carpal joints. This technique might provide essential information of knee rotational stability before and in a later stage after ACL reconstruction and hereby, possibly prediction of patient satisfaction after ACL repair.
Objective: To assess the rotational stability of the knee using dynamic CT scanning.
Study design: A feasibility study / pilot study. It will be a cross-sectional design. There will be an internal control. A dynamic CT scan will be performed of the injured as well as the uninjured knee to assess the differences in rotations.
Study population: Patients planned for ACL reconstruction surgery, with a unilateral symptomatic ACL deficiency will be included, 18-50 years of age.
Intervention (if applicable): All participants will receive the same ‘ intervention’, one dynamic-CT scans of each knee, left and right, prior to ACL reconstruction.
Main study parameters/endpoints: Degrees of rotation (femur versus tibia) of the injured versus the uninjured knee.

Doel van het onderzoek

It is possible to measure knee rotational stability of ACL deficient compared to ACL intact knees using dynamic-CT.

Onderzoeksopzet

One measurement after ACL rupture

Onderzoeksproduct en/of interventie

Dynamic CT of the knee

Contactpersonen

Publiek

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Wetenschappelijk

ErasmusMC
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Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

- Uni- lateral symptomatic knee instability and ACL deficiency.
- Planned for ACL reconstruction surgery
- Age between 18 – 50 years
- A written informed consent should have been signed

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

- Symptomatic contra-lateral knee
- Prior injury to contra-lateral knee
- Pregnancy
- Patient is unwilling to participate
- Unable to speak, read and write in Dutch

Onderzoeksopzet

Opzet

Type:	Observationeel onderzoek, zonder invasieve metingen
Onderzoeksmodel:	Parallel
Toewijzing:	N.v.t. / één studie arm
Blindering:	Open / niet geblindeerd
Controle:	N.v.t. / onbekend

Deelname

Nederland

Status:	Werving nog niet gestart
(Verwachte) startdatum:	21-10-2019
Aantal proefpersonen:	10
Type:	Verwachte startdatum

Voornemen beschikbaar stellen Individuele Patiënten Data (IPD)

Wordt de data na het onderzoek gedeeld: Nee

Ethische beoordeling

Positief advies

Datum:	23-08-2019
Soort:	Eerste indiening

Registraties

Opgevolgd door onderstaande (mogelijk meer actuele) registratie

Geen registraties gevonden.

Andere (mogelijk minder actuele) registraties in dit register

Geen registraties gevonden.

In overige registers

Register	ID
NTR-new	NL7981
Ander register	METC EMC : METC078

Resultaten