Development of an ultrasound method for measuring lung aeration

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Artifacts on LUS images adequately reflect chest CT scan findings in invasively ventilated ICU patients; artifacts could be used in a computer–based quantitative algorithm for lung aeration.

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

Samenvatting

ID

NL-OMON29300

Bron
NTR

Verkorte titel
herQLUS

Aandoening

Increased lung density, decreased amount of air in the lung, verhoogde longdichtheid, verminderde luchthoudendheid van de long.

Ondersteuning

Primaire sponsor: Academic Medical Center (AMC), Amsterdam
Overige ondersteuning: Academic Medical Center (AMC), Amsterdam

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

Lung aeration of the 12 lung regions evaluated through Lung Ultrasound (LUS).

Toelichting onderzoek

Achtergrond van het onderzoek

Monitoring of lung aeration is crucial in Intensive Care Unit (ICU) patients, especially in invasively ventilated patients. The gold standard for measuring lung aeration is chest Computed Tomography (CT). Unfortunately, a chest CT scan is difficult to obtain in invasively ventilated ICU patients and cannot be repeated frequently. Lung Ultrasound (LUS) as a point–of–care imaging tool is increasingly used in the (ICU) setting. Lung aeration by LUS is presently evaluated through semi–quantitative visual scores. Automated quantification could improve accuracy of lung aeration estimations. Our objective is to develop a computer–based algorithm for quantitative LUS analysis that accurately estimates lung aeration. A chest Computed Tomography (CT) scan will be used as the reference test.

Doel van het onderzoek

Artifacts on LUS images adequately reflect chest CT scan findings in invasively ventilated ICU patients; artifacts could be used in a computer–based quantitative algorithm for lung aeration.

Onderzoeksopzet

The Lung Ultrasound is performed close in time to the chest CT-scan.

Onderzoeksproduct en/of interventie

Lung Ultrasound

Contactpersonen

Publiek

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Wetenschappelijk

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Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

- Admitted to the intensive care unit for adults of the Academic Medical Center in Amsterdam, The Netherlands

- Receiving invasive ventilation

- Receiving a chest Computed Tomography (CT) scan on a clinical indication

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

- Age < 18 years

- Lung Ultrasound (LUS) not feasible (e.g., severe chest trauma, extensive burns, open wounds)

- No written informed consent of the patient or his/her formal representative

- Reported allergy to skin tape, necessary to attach the skin markers to identify fields at chest CT scans

Onderzoeksopzet

Opzet

Type:	Observationeel onderzoek, zonder invasieve metingen
Onderzoeksmodel:	Anders
Blindering:	Open / niet geblindeerd
Controle:	N.v.t. / onbekend

Deelname

Nederland

Status:	Werving gestopt
(Verwachte) startdatum:	15-02-2018
Aantal proefpersonen:	40
Type:	Werkelijke startdatum

Voornemen beschikbaar stellen Individuele Patiënten Data (IPD)

Wordt de data na het onderzoek gedeeld: Nog niet bepaald

Ethische beoordeling

Positief advies

Datum:	23-03-2018
Soort:	Eerste indiening

Registraties

Opgevolgd door onderstaande (mogelijk meer actuele) registratie

ID: 46372
Bron: ToetsingOnline
Titel:

Andere (mogelijk minder actuele) registraties in dit register

Geen registraties gevonden.

In overige registers

Register	ID
NTR-new	NL6915
NTR-old	NTR7110
CCMO	NL64089.018.17
OMON	NL-OMON46372

Resultaten

Samenvatting resultaten
None