

# Perfusion CT in resectable livermetastases of colorectal cancer.

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We want to estimate the additional value of perfusion CT over the 4 phase contrast CT. Furthermore, we want to correlate measurements of perfusion CT (parameters) to histopathological properties of the tumor.

<b>Ethical review</b>	Approved WMO
<b>Status</b>	Recruiting
<b>Health condition type</b>	Gastrointestinal neoplasms malignant and unspecified
<b>Study type</b>	Observational invasive

## Summary

### ID

NL-OMON35564

### Source

ToetsingOnline

### Brief title

MICC Perfusion CT

### Condition

- Gastrointestinal neoplasms malignant and unspecified

### Synonym

livermetastases colorectal cancer

### Research involving

Human

### Sponsors and support

**Primary sponsor:** Universitair Medisch Centrum Sint Radboud

**Source(s) of monetary or material Support:** KWF subsidie

## Intervention

**Keyword:** Colorectal cancer, Livermetastases, Perfusion CT

## Outcome measures

### Primary outcome

Correlation between CT parameters of tumor vasculature and hemodynamic properties of the tumor (ktrans, kep, VE) and histopathology.

### Secondary outcome

-

## Study description

### Background summary

Besides functional imaging techniques with MRI and PET, possibilities arise of functional imaging with computer tomography (CT), like perfusion CT. Follow-up of most metastasized colorectal cancer patients is done with CT. Therefore it would be patient-friendly to be able to do (additional) functional imaging with CT as well.

Like DCE-MRI, dynamic perfusion CT provides information on tumor vasculature and hemodynamic properties. After analyses of the data in a pharmacokinetic model, it provides information on blood volume, flow, vascular permeability and extracellular volume. These parameters are associated with tumor aggressiveness and prognosis. In various tumors has been shown that a drop in perfusion CT parameters is predictive of response to treatment later on. The data of perfusion CT and DCE-MRI are not directly interchangeable. Only a weak correlation was shown between DCE-MRI- and perfusion CT parameters

### Study objective

We want to estimate the additional value of perfusion CT over the 4 phase contrast CT. Furthermore, we want to correlate measurements of perfusion CT (parameters) to histopathological properties of the tumor.

### Study design

20 patients scheduled for a metastasectomy of liver metastases of colorectal cancer will be asked to participate in this study.

An perfusion CT of the patients will be made. It will be compared to the 4 phase contrast enhanced CT that is made in regular clinical care before a metastasectomy. Correlation with histopathology (hypoxia, vessel density) will be determined.

### **Study burden and risks**

The most important burden for the participating patients is the radiation exposition of 10 mSv.

## **Contacts**

### **Public**

Universitair Medisch Centrum Sint Radboud

Geert Grooteplein Zuid 8  
6500 HB Nijmegen  
NL

### **Scientific**

Universitair Medisch Centrum Sint Radboud

Geert Grooteplein Zuid 8  
6500 HB Nijmegen  
NL

## **Trial sites**

### **Listed location countries**

Netherlands

## **Eligibility criteria**

### **Age**

Adults (18-64 years)

Elderly (65 years and older)

### **Inclusion criteria**

Patients with livermetastases of colorectal cancer scheduled for metastasectomy.

## Exclusion criteria

renal failure, pregnancy, former allergic reactions to contrast agents, claustrofobia.

## Study design

### Design

**Study type:** Observational invasive

Masking: Open (masking not used)

Control: Uncontrolled

Primary purpose: Diagnostic

### Recruitment

NL

Recruitment status: Recruiting

Start date (anticipated): 19-11-2014

Enrollment: 20

Type: Actual

## Ethics review

Approved WMO

Date: 07-12-2011

Application type: First submission

Review commission: CMO regio Arnhem-Nijmegen (Nijmegen)

## 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	NL37784.091.11