

# The Kidney during surgery for Hip Fracture repair in elderly patients: possible injury due to poor fluid intake and the choice of infusion fluid during the surgery

<b>Submission date</b> 04/05/2014	<b>Recruitment status</b> Stopped	<input checked="" type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
<b>Registration date</b> 12/06/2014	<b>Overall study status</b> Stopped	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
<b>Last Edited</b> 23/02/2023	<b>Condition category</b> Surgery	<input type="checkbox"/> Individual participant data <input type="checkbox"/> Record updated in last year

## Plain English summary of protocol

### Background and study aims

Acute kidney injury, where the kidneys suddenly become unable to function properly, is a serious complication that can occur during hip fracture surgery in the elderly. This could be due to a number of factors, and this study aims to see whether it may be due to poor fluid intake by the patient (preoperative dehydration) and the choice of infusion fluid (crystalloid or hyperoncotic colloid) used during the operation.

### Who can participate?

Adults aged between 70-90 years with a hip fracture and scheduled for surgery.

### What does the study involve?

Each patient is randomly chosen to receive either crystalloid or hyperoncotic colloid at the start of the operation. Urine and blood samples will also be taken three times during the course of the day of the surgery.

### What are the possible benefits and risks of participating?

All patients will benefit from having their blood circulation monitored using a non-invasive apparatus called the Nexfin. Hyperoncotic colloid can cause fluid to collect in the lungs of susceptible patients, but this is minimized by giving only a small amount of the fluid and also by doing so at the point when the anaesthesia is given; this causes the blood vessels to widen (vasodilation)

### Where is the study run from?

Södertälje Hospital (Sweden)

### When is study starting and how long is it expected to run for?

September 2014 to September 2015

Who is funding the study?  
Stockholm County Council (Sweden)

Who is the main contact?  
Professor Robert Hahn  
r.hahn@telia.com

## Contact information

**Type(s)**  
Scientific

**Contact name**  
Prof Robert Hahn

**Contact details**  
Research Unit, House 18  
Södertälje Hospital  
Södertälje  
Sweden  
15286  
+46 (0) 855024670  
r.hahn@telia.com

## Additional identifiers

**Clinical Trials Information System (CTIS)**  
Nil known

**ClinicalTrials.gov (NCT)**  
Nil known

**Protocol serial number**  
Nil known

## Study information

**Scientific Title**  
Kidney injury during hip fracture surgery: a randomized study between crystalloid and colloid fluid and the influence of preoperative dehydration

**Acronym**  
KIHF

**Study objectives**  
Kidney injury that develops during acute hip fracture surgery can be related to preoperative dehydration and/or to the use of albumin 20% for plasma volume support

**Ethics approval required**

Old ethics approval format

**Ethics approval(s)**

Regional Ethics Committee of Stockholm, 02/04/2014, ref. 2014/497-31/4

**Study design**

Randomized double-blinded trial

**Primary study design**

Interventional

**Study type(s)**

Treatment

**Health condition(s) or problem(s) studied**

Hip fracture surgery

**Interventions**

Patients are randomized to receive either 100 ml of Ringer's acetate solution or 100 ml of 20% albumin during the induction of anaesthesia. Blood and urine sampling is performed on three occasions on the day of surgery.

**Intervention Type**

Procedure/Surgery

**Phase**

Not Applicable

**Primary outcome(s)**

Changes in urine markers of kidney injury (NGAL, microglobulin, albumin, creatinine and erythrocytes). Urine sampled at baseline and 4 hours after surgery has ended

**Key secondary outcome(s)**

1. The effect of albumin and crystalloid fluid on the colloid osmotic pressure, measured at baseline, the beginning of the surgery, and 4 hours after the surgery
2. Surgical complications, measured when the patient leaves the hospital

**Completion date**

30/09/2015

**Reason abandoned (if study stopped)**

Lack of staff/facilities/resources

**Eligibility**

**Key inclusion criteria**

1. Males and females with hip fracture who are planned for acute surgery
2. Age range 70-90 years

**Participant type(s)**

Patient

**Healthy volunteers allowed**

No

**Age group**

Senior

**Sex**

All

**Key exclusion criteria**

1. Kidney disease
2. Serious heart failure (NYHA class III)
3. Those undergoing surgery under general anaesthesia
4. Poor understanding of the Swedish language

**Date of first enrolment**

01/09/2014

**Date of final enrolment**

30/09/2015

## **Locations**

**Countries of recruitment**

Sweden

**Study participating centre**

**Research Unit, House 18**

Södertälje

Sweden

15286

## **Sponsor information**

**Organisation**

Stockholm County Council (Sweden)

**ROR**

<https://ror.org/02zrae794>

## **Funder(s)**

**Funder type**  
Government

**Funder Name**  
Stockholm County Council (Sweden), grant 20130297

## Results and Publications

**Individual participant data (IPD) sharing plan**  
Not provided at time of registration

**IPD sharing plan summary**  
Not provided at time of registration

### Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Other publications</a>	observational substudy data examining relationships between potential markers of poor outcome, such as kidney injury and mortality, in hip fracture patients	03/06/2015	23/02/2023	Yes	No
<a href="#">Participant information sheet</a>	Participant information sheet	11/11/2025	11/11/2025	No	Yes