

PATIENT PREPARATION INSTRUCTIONS FOR CT SCAN EXAMINATIONS WITH CONTRAST MEDIUM

1. Do not take any liquid or solid food before at least 6 hours to the examination
2. On the day of the examination the patient has to bring the recent results executed 90 days before the examination or earlier of:

creatinine blood level

Take the usual therapy according to your family doctor.

Notes

In case of allergy to contrast medium or to any other drug please refer to your family doctor, fill up and show the allergic predisposition form here attached.

In case of chronic kidney failure (creatinine > 1.2 mg/dL and **GFR <50 mL/min**), contact your general practitioner and show the annexed pre-medication protocol.

On the day of the exam the patient will have to bring all the recent results relating to the examination in progress

ALLERGY TO CONTRAST MEDIUM PREDISPOSITION FORM (iodinated and paramagnetic contrast agents)

24 HOURS BEFORE THE DAY OF THE EXAM, TAKE:

- DELTACORTENE – 1 tablet of 25 mg
- CETIRIZINE - 1 tablet of 10 mg
- OMEPRAZOLO - 1 tablet of 20 mg

13 HOURS BEFORE THE DAY OF THE EXAM, TAKE:

- DELTACORTENE - 1 tablet of 25 mg
- CETIRIZINE - 1 tablet of 10 mg
- OMEPRAZOLO - 1 tablet of 20 mg

7 HOURS BEFORE THE DAY OF THE EXAM, TAKE:

- DELTACORTENE - 1 tablet of 25 mg
- CETIRIZINE - 1 tablet of 10 mg
- OMEPRAZOLO - 1 tablet of 20 mg

1 HOURS BEFORE THE DAY OF THE EXAM, TAKE:

- CETIRIZINE - 1 tablet of 10 mg

BRIEFING NOTE – COMPUTED TOMOGRAPHY (CT)

What is Computed Tomography (CT)?

CT is a radiologic diagnostic technique which allows to investigate the whole body and produces slice images; this is like to cut the body and take pictures of the slices. Then it's also possible to produce secondary images along different directions and using special programs (e.g. to study vessels).

How long is the exam?

The modern multislice scans (which are able to produce many different slices at one time) can perform exams in a short time; the mean time of execution is about 20 minutes.

How the exam is performed?

The patient lays on a mobile table which moves inside a ring-shaped device. The body is exposed to X-rays and the equipment produces electronic images; these images are then processed and viewed on a monitor. The exam is supplied on a CD.

Why the CT is requested?

CT can investigate the whole body (brain, thorax, abdomen, bones, vessels,...). Pregnancy is the only real contraindication for the exam without the use of contrast medium. The exam is not painful and it is requested by the Doctor for special diagnostic problems.

When is contrast medium used?

Some kind of examinations need the injection of a particular contrast medium containing iodine which enhances different features inside many organs. In this case the patient should be fasting before the exam.

Specific allergic reactions (which must be notified in advance at the Radiologic Service) or the presence of severe renal or liver impairment are possible contraindications. This is the reason why a blood test is needed to test creatinine and the result must be produced for medical evaluation at the moment of the exam.

It is then necessary to fill, mainly with your Doctor, the Informed Consent Form received at the booking desk and remember to bring the form with you the day of the exam.

As any other drug the CT contrast medium can rarely cause allergic reactions, in very few occasions these can be severe (deadly in about 1 case over 200.000); in any case every reaction can be successfully treated .

INFORMED CONSENT FORM FOR DIAGNOSTIC PROCEDURES with INTRAVENOUS CONTRAST IODINATED MEDIUM (CIM)

 Mr/Mrs..... ID Code..... Diagnosis.....
 Exam.....

The present exam is necessary for diagnostic purposes . In compliance with the indications of the National Health Department's Note of 17.09.97 about the use of iodinated contrast medium (CIM), the following anamnestic and clinical information is requested.

- | | | |
|--|------------------------------|-----------------------------|
| ✓ Allergic history or proven allergic risk for iodinated contrasts | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| ✓ Pregnancy | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| ✓ Heavy cardio-vascular failure | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| ✓ Multiple myeloma or paraproteins | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| ✓ Risk factors for renal failure (diabetes, gout, hepatic cirrhosis, use of nephrotoxic drugs, previous renal surgery) | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| ✓ Recent CIM exams (within 5 days) | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| ✓ Heavy renal failure | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

Serum Creatinine level (mg/dL) _____ (within the last 3 months)

Patient Signature _____ Parents Signature _____

Signature of the requiring MD _____

I _____ hereby declare to have understood what explained in the card of explications and, during the talk with my Doctor, I understood the essential information about the features of the exam, in terms of preparation, procedure, test's finality and advantages, related risks and complications (the exam, as for every other medical application, even if correctly performed, can determine complications and in very few occasions can be deadly in about 1 case over 200.000).

Conscious of all what previously reported and aware that the present consent may be countermanded in any moment

- I agree (consent)
 I don't agree (consent)

to undergo the diagnostic procedure.

Patient signature _____

Known and verified directly from the patient about what previously reported and signed

Signature of the Radiologist MD _____

PATIENTS' HYDRATION PROTOCOL FOR THE PREVENTION OF CONTRAST-INDUCED NEPHROPATHY

In view of examinations involving intravenous administration of an iodinated contrast medium to patients:

1. with moderate to severe **Chronic Renal Failure** (blood creatinine >2 mg/dL);
2. with **blood creatinine > 1.2 mg/dL and clearance <50 mL/min (*)**, particularly in diabetic patients aged over 70 years.

The following **hydration protocol** is recommended:

1. **n-acetyl cysteine** 600 mg x 2/day on the day before and after the examination;
2. **hydration**: for mild CRI (creatinine <2 mg/dL): 500 cc of water the evening before and 500 cc on the morning of the examination; maintain increased water intake for 24 hours after the examination. In case of creatinine >2 mg/dL, IV administration of *physiological solution* 1 mL/kg/h six hours before and after the examination (based on the patient's cardiocirculatory conditions).

NB: the examination is CONTRAINDICATED in patients with acute kidney failure, and should be reconsidered following a consultation with a Nephrologist.

(*) to calculate clearance using the Cockcroft-Gault equation:

$$\frac{(140 - \text{age}) \times \text{lean body mass}}{\text{Plasma creatinine} \times 72 \text{ ♂}} \quad \times 0.85 \text{ (only for ♀)}$$



For patients taking Metformin

- | | |
|---|---|
| a. eGFR ≥ 45 mL/min/1.73 m ² | suspension of Metformin <u>not required</u> ; |
| b. eGFR < 45 mL/min/1.73 | suspend Metformin 48 hours before the MDC, and recommence 48 hours after MDC, only if renal function has not been aggravated. |

1. European Society of Urogenital Radiology GUIDELINES ON CONTRAST MEDIA 2018 (<http://www.esur.org/esur-guidelines/contrast-media-70/>)
2. Stacul, F., van der Molen, A.J., Reimer, P. *et al.* Contrast induced nephropathy: updated ESUR Contrast Media Safety Committee guidelines. *Eur Radiol* **21**, 2527–2541 (2011). <https://doi.org/10.1007/s00330-011-2225-0> (<http://rd.springer.com/article/10.1007/s00330-011-2225-0/fulltext.html>)