

Jessa Hospital







Campus Virga Jesse Hasselt

Campus Salvator
Hasselt

Campus St-Ursula Herk-de-Stad

981 beds, 220 day hosp, > 400 doctors, > 3.000 employees 3 radiology departments, 21 radiologists, 1 consultant, 3 residents



1. How did we start and improve our justification process?

2. Practical steps in justification

Justification?

-) ICRP: International Commission for Radiation Protection
-) The ICRP system of radiation protection:
 - 3 fundamental principles:
 - 1. justification
 - 2. optimisation
 - 3. dose limitation

http://ec.europa.eu/health/scientific_committees/opinions_layman/security-scanners/en/l-3/2-radiation-protection.htm



) "any decision that alters the radiation exposure situation should do more good than harm"

=> benefit: Individual, Societal or Economic

"Justification therefore goes far beyond the scope of radiological protection". (ICRP)

financial tightness in social security



1. How did we start and improve our justification?

"Accreditation"

2008 - 2012- 2016:

Jessa received NIAZ - Qmentum accreditation

Qmentum:

2012->2016 more demanding standards!



Getting started with accreditation (justification):

- installation of Q-team Jessa Rad
 - 2 deputy heads of nursing / technicians: coordinating
 - 4 rad tech/nurses (resp: disasters, pt safety, hosp. Hygiene,...)
- Q-team reports each month at management
 - head of department, head of nursing (2), care manager
- Q-team selected standards with need for radiologist input
 - responsability of head of department

Justification

Q-team tasks:

- gap analysis using the standards of Qmentum and Quaadril
- coordinating self assessment (internal important external partners) concerning the standards of importance
- implementation of plans for action (with timing)
- validation of measures of improvement
- registration of all procedures in 1 place
- link with other Q-teams
- together with management: bringing into practice

Justification

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NIAZ-Qmentum transition 2012->2016: gap-analysis

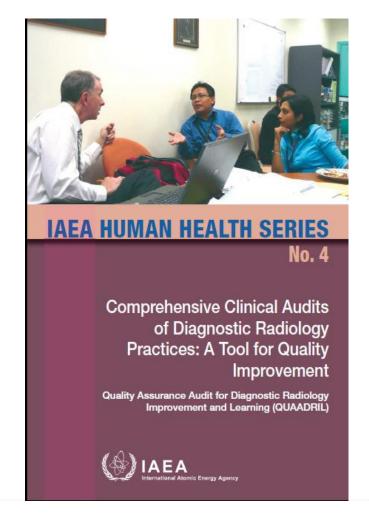
NIAZ-Qmentum // JCI for radiology

=~ Quaadril



QUAADRIL

Quality Assurance <u>Audit</u> For Diagnostic Radiology Improvement and Learning



 Comprehensive Clinical Audits of Diagnostic Radiology Practices:
 A tool for quality improvement





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Q-team problems:

- gap:
 - -> written improvements, but bringing it in practice?
 - -> what is the current level of knowledge with our employees?
 - -> where to find procedures / how to communicate?
 - -> how to stimulate continuous improvement?



Q-team solutions:

- gap
 - -> written improvements, but bringing it in practice?
 - -> what is the current level of knowledge with our empl.?

- internal audits: 2012-2013

but no expertise nor pressure

=> need for external audit





The need for Clinical Auditing is supported by several organizations



- White paper on radiation protection, 2011
- ESR Clinical Standards and Audit templates, 2015



- EC Directive 97/43/EURATOM and EC Directive 2013/59/EURATOM
- European Commission Guidelines for Clinical Audit for Medical Radiological Practices No 159



 International Atomic Energy Agency: Quality Assurance Audit For Diagnostic Radiology Improvement and Learning (QUAADRIL)



Clinical Audit

The ESR believes that <u>all radiology departments</u> should have a <u>Clinical Audit</u> Programme in order to assure users of the quality of the service and to promote continual quality improvement.



Clinical audit in terms of the EC Directives/EURATOM 97



The European council has adopted the Euratom Directive laying down basic safety standards for protection against the dangers arising from exposure

Whereas the establishment of

quality assurance

and 13

- and <u>audit programmes</u>,
- and inspections by the competent authorities
 are necessary to ensure that medical exposure is delivered under good radiation protection conditions;

QUAADRIL: Quality Assurance Audit For Diagnostic Radiology Improvement and Learning



Quaadril is 100% in line with EC Guidelines No 159



By comparing the practice of the service against the standards of good practice, clinical audits can inform the staff of the health care service, as well as all other stakeholders, about the essential elements of quality and the weak points of the overall clinical service.

The audits will indicate <u>areas for improvement</u> and provide <u>reassurance on issues such as safety and efficacy</u>, all of which are essential to creating an environment of continuous development.



Quaadril Audit april 2014

Qaelum: dose-monitoring

Dr. J. Schillebeeckx Nelly Ilcheva



Report: 34p with 'areas for improvement'



	LEVEL OCUNICAL AUDIT TEMPLATES
	Authority of requestor Pregnancy Status,
10	Authority of requestor policy implementation
	Justification policy 11
	Justification policy implementation
	Justification policy forwomen of child bearing age Reliable sweet of recording the preapancy status in examinations involving ionising radiation.
	CT radiation dose
	records
	Dose Optimisation in CT policy Implemental in of case optimisation in CT policy
	Policy for patient identification prior to procedure Screening Implementation of policy for patient id inflication prior to procedure Prevention of MRI hazards
	policy
	policy 22



Q-team solutions:

- gap
 - -> where to find procedures / how to communicate
 - -> how to stimulate continuous improvement?
- need for 'document management system'
 - -> + tools for continuous improvement
 - -> + overview accrediations needs
 - -> + tools for communication

Justification

Q-team solutions:

- need for 'document management system'
 - -> + tools for continuous improvement
 - -> + overview accrediations needs
 - -> + tools for communication

=> Qaelum: TQM Dose => Q-book

Justification

- 1. How did we start and improve our justification process?
 - accreditation
 - => audit: baseline info and areas for improvement
 - => awareness / need for change
 - tools for registration, communication: Q-book



1. How did we start and improve our justification process?

2. Practical steps in justification



2. Practical steps in justification

- justification standards in Quaadril / Qmentum



Quaadril Guideline:

Principles and criteria for good practice regarding J:

- Selection of appropriate examination:
 - referring doctors, health authorities (screening)
- Using guidelines for imaging
- Justification by clinical assessment of pt (available on order)
- Examination availability (MRI)
- Benefit > Risks associated with examination
 - Especially if pregnant, breastfeeding, paediatric

Justification

- Knowledge of:
 - Indications for available examinations
 - Advantages and limitations of examination options
 - Complementary nature of other examinations
 - Results of prior examinations
 - Risk-benefit considerations including adverse effects
 - Contraindications

=> Information = key => task for radiologist!

Justification

- Appropriate clinical information = essential
 - Facility should have <u>written</u> policy and procedure on:
 - verification of request data and
 - justification of examination selection.
- Radiological medical practitioner (or delegate):
 - Should review the request
 - Determine if appropriate
 - Contact referring colleague if neccessary for discussion of clinical findings and imaging examination options



Justification in Niaz-Qmentum:

- parts can be found in different chapters (27 pages of standards)

Biggest part of justification in chapter 9, safe and good radiological service.

Gold – platinum - Diamond



Practical: domains to work on

- 1. Referral by doctor
- 2. Making an appointment
- 3. Arriving at the radiology department Tasks for secretary, nurses/technicians, radiologists



Practical: domains to work on

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Practical: domains to work on

1. Referral by doctor

Steps taken:

- set of **training sessions** for general drs (LOK)
 - Guidelines in general
 - Guidelines for lower back pain
 - Guidelines for abdominal imaging
 - Risks in a radiology department





Practical: domains to work on

1. Referral by doctor

Steps taken:

- Rad Call center: seperate nr for referring drs
 - Very High SLA: 95% < 15" => redirected to Radiologist with subspeciality they ask for

* communication: we prefer a phone call to avoid suboptimal referrals (general drs feel hampered to do so)

Todays generation will never get to know the satisfaction



of slamming down the phone during an angry hang-up!

www.facebook.com/geezerplanet



Practical: domains to work on

1. Referral by doctor

Steps taken:

- Website: Belgian guidelines available





Practical: domains to work on

1. Referral by doctor

Steps taken:

- Radiology = no commodity => radiologists need to play a role
 - Improved visibility of radiology in our hospital
 - Take part in oncology handbook workshops!
 - Organ focussed radiologists = contact person
 - Take part in multidisciplinary oncology meetings
 - Better relations with referring colleagues; appreciation
 - Easier communication, avoiding wrong exams



Practical:

NDSC helps bring the best available imaging guidelines to referrers

1. Referra

Opportuni

- Electroni



ESR guidelines are structured into digital content...



...and seamlessly delivered in real-time to ordering physicians at the point of care within the native EHR

The art of CDS delivery

- Localisation and translation
- Integrate seamlessly into EHRs
- Create user-centric 'actionable' workflow with minimal 'extra clicks'
- · Avoid alert fatigue
- Meaningful statistical reporting on appropriate utilisation





Practical: domains to work on

1. Referral by doctor

Opportunity:

- Planning of regular feedback conversations with ER colleagues
 - Ex. Focus on Medical Imaging: renal stones



Practical: domains to work on

- 1. Referral by doctor
- 2. Making an appointment
- 3. Arriving at the radiology department Tasks for secretary, nurses/technicians, radiologists



Practical: domains to work on

2. Making an appointment

Steps taken:

- List of examinations are flagged for secretary in booking software
 - -> no appointment possible
 - -> unless radiologist approves

(MRI chest, MRI ribs, XR Sinus, XR skull, mammotomy,...)



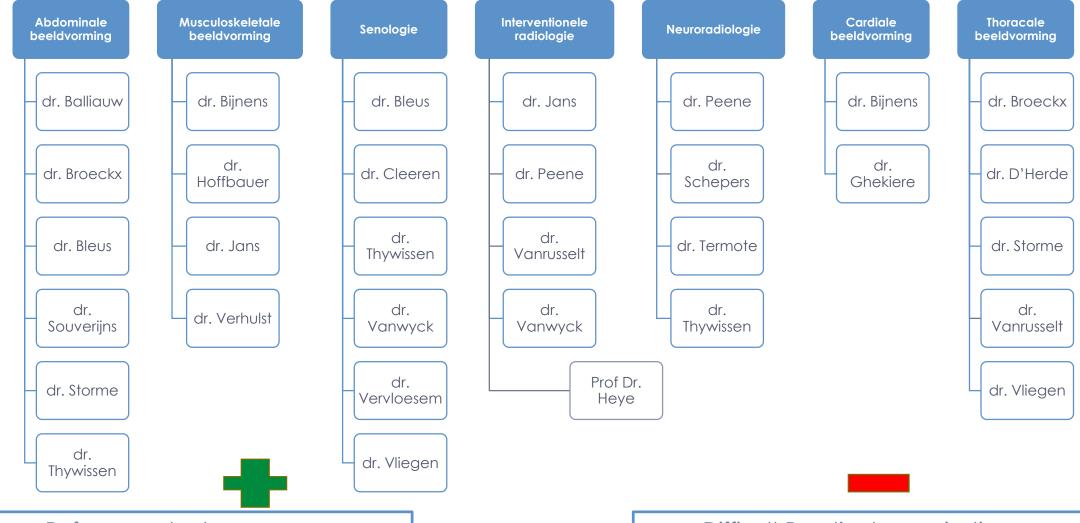
Practical: domains to work on

2. Making an appointment

Steps taken:

- Radiologists work with subdisciplines and seperate bookings
 - Appointment is fitted in order to get patient at correct campus, correct timing, with correct radiologist.





- Reference doctors
- Quality ↑
- Second opinion, avoiding exams.
- Follow up and feedback (MOC's)

- Difficult Practical organisation
- Need for large staffing



2. Making an appointment

Steps taken:

- Dynamic MRI planner:
 - Emergency Room has free semi-urgent MRI time slots available
 - Planned < 1wk
 - Ex. To avoid ultrasound or XR-Knee
 - Block of MRI time-slots reserved for urgent planning
 - Available for substitution from CT
 - Active monitoring of MRI waiting time / anatomy
 - Remediation possible with free blocks each week

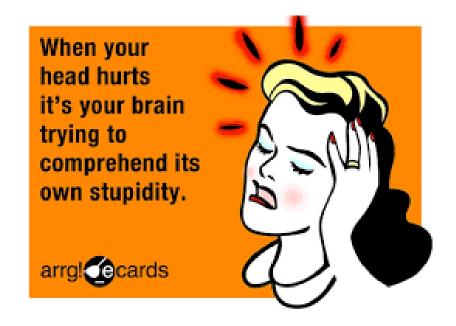


Practical: domains to work on

2. Making an appointment

Opportunity:

- Refusal of CT brain
 - Often ambulatory due to 'headache'
 - But: legal medical responsability
 - -> training of med.students !!!





Practical: domains to work on

2. Making an appointment

Opportunity:

- Refusal of CT spine
 - But:
 - Claustrophobia
 - Operated ("surgeon knows better")



"OK, Mrs. Dunn. We'll slide you in there, scan your brain, and see if we can find out why you've been having these spells of claustrophobia."





Practical: domains to work on

- 1. Referral by doctor
- 2. Making an appointment
- 3. Arriving at the radiology department
 Tasks for secretary, nurses/technicians, radiologists



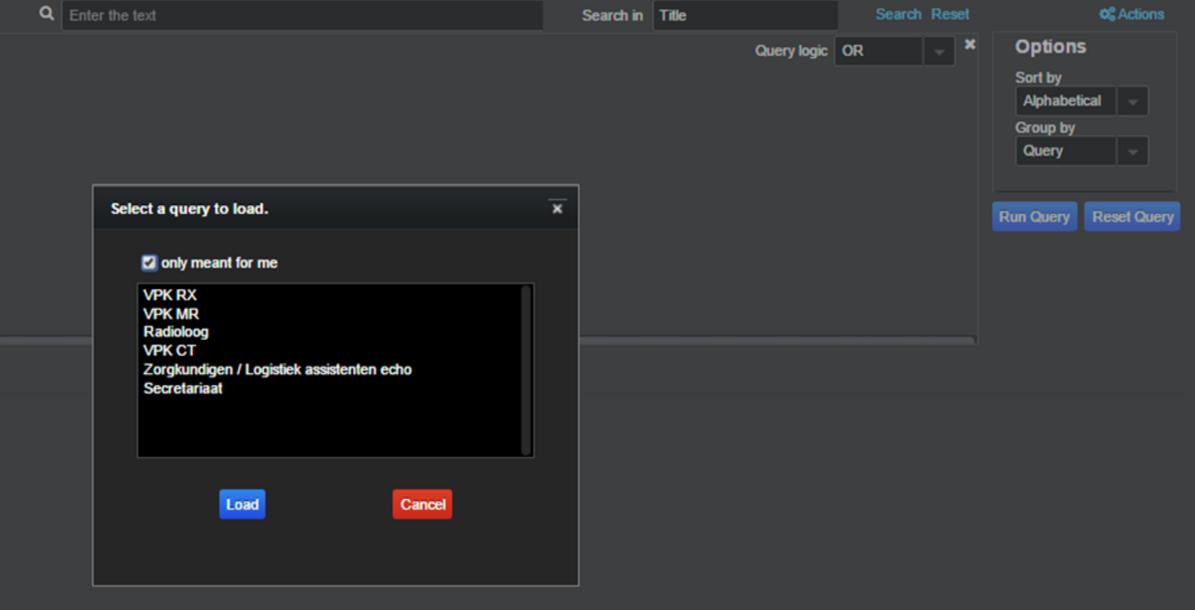
3. Arriving at the radiology department

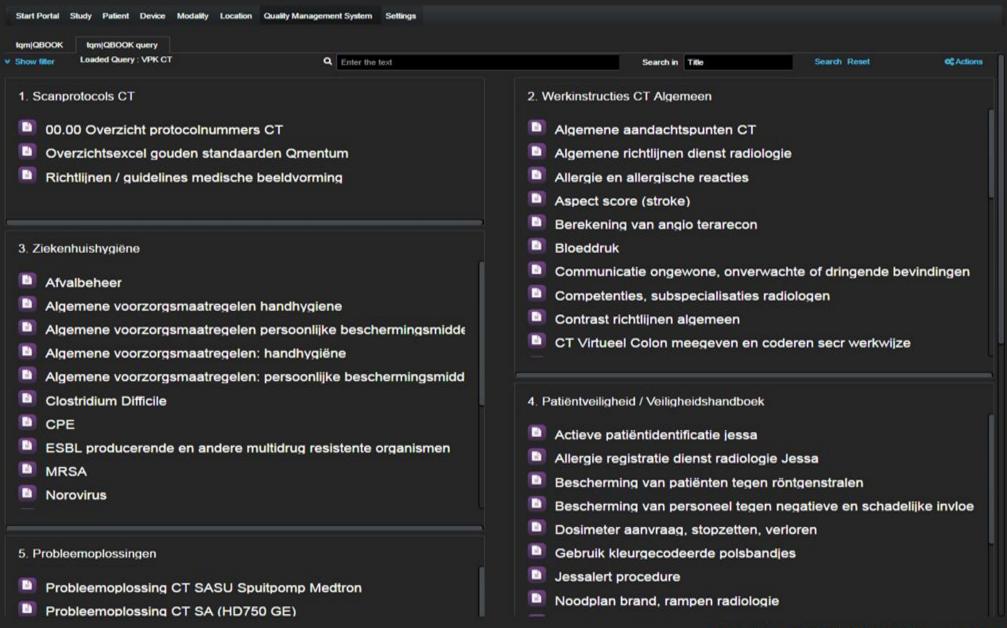
Tasks for:

- 1. secretary,
- 2. nurses/technicians,
- 3. radiologists

No electronic ordering; every order is digitalised; workflow is digital.

All procedures / working instructions can be found in Q-book important: 'at your fingertips'





tam/QBOOK query

5. Probleemoplossingen

- Probleemoplossing CT SASU Spuitpomp Medtron
- Probleemoplossing CT SA (HD750 GE)
- Probleemoplossing CT SA Bracco CO2 insufflator
- Probleemoplossing CT SA CBCT New Tom
- Probleemoplossing CT SU (lightspeed 16 slice)
- Probleemoplossing CT VJ Bracco CO2 Insufflator
- Probleemoplossing CT VJ Spuitpompen
- Probleemoplossing CT VJ Toshiba Aquillion one en Toshiba rxl
- Probleemoplossing Jessa Netwerk
- Probleemoplossing Jessa Impax

7. Formulieren

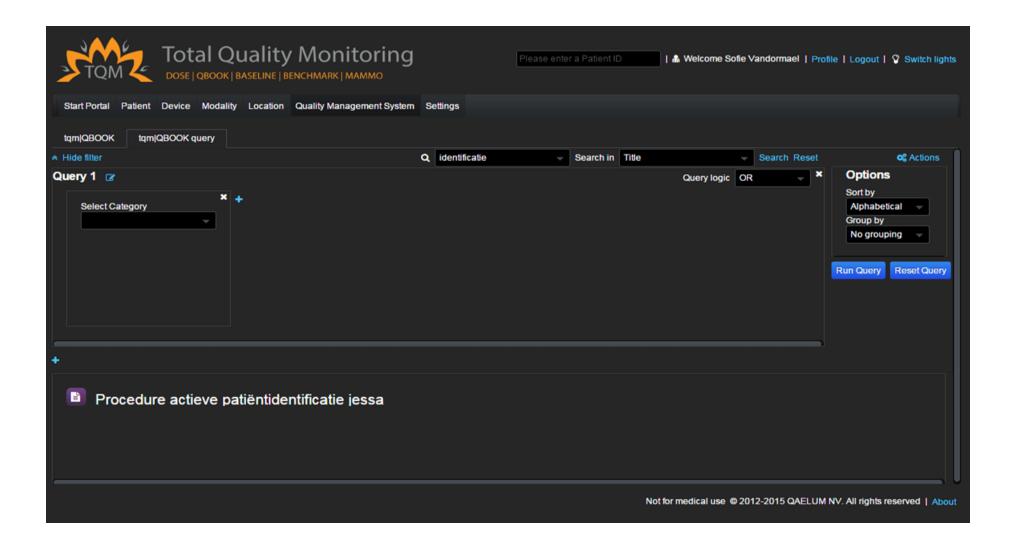
- Aanvraagformulier Radiologie
- Informed consent CT-geleide punctie of -drainage
- Medicatie stickers telebrix 30ml in fles H2O
- Medicatie stickers adrenaline
- Medicatie stickers buscopan colonografie
- Medicatie stickers drinken fles ct van tot
- Medicatie stickers iomeron spuitpomp
- Medicatie stickers NaCl spuitpomp

- Dosimeter aanvraag, stopzetten, verloren
- Gebruik kleurgecodeerde polsbandjes
- Jessalert procedure
- Noodplan brand, rampen radiologie
- Noodplan extern
- Noodplan intern

6. Handleidingen

- Handleiding CO2 pomp
- Handleiding CT stripverhaal kinderen
- Handleiding CT stripverhaal ouders
- Handleiding SA CBCT low dose
- Handleiding SA CBCT user manual
- Handleiding SA CT contrastoven (CBM Panacea)
- Handleiding SA CT HD750
- Handleiding SA CT Spuitpomp Medtron accutron
- Handleiding SU CT contrastoven
- Handleiding SU CT Lightspeed series manual



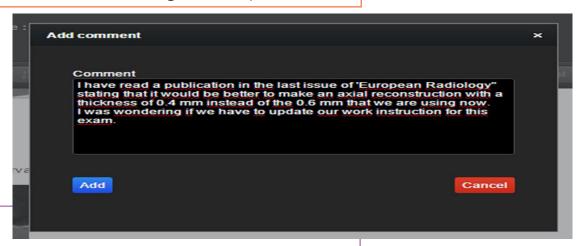




Role – Reader (everyone on department)

Triggered by: manual question or automatic notification

Objective: everyone can participate in quality and is stimulated to think along with department



Role - Reviewer

Triggered by: notification for demand for revision

Objective: persons with high level of expertise are demanded for opinion before approval

Role - Publisher

Triggered by: notification for approval of revision

Objective: person who are given the responsibility to publish a new procedure or to publish the procedure which is approved for revision



Follow up:

How many new procedures do I have to read?

admin: who reads new procedures?

ICON	TYPE	DOCUMENT TITLE	DOCUMENT VERSION	REMAINING TIME	MESSAGE
	QMS_READ	test_wiki	RAD_QMS-159_v2	-54	Outside achievable range
	QMS_PUBLISH	test_wiki	RAD_QMS-159_v2	4	Inside acceptable range
B	QMS_READ	test_pdf	RAD_QMS-161_v1	4	Outside acceptable range
	QMS_READ	Totaal Abdomen	RAD_QMS-943_v4	38	Inside acceptable range
	QMS_REVIEW	Totaal Abdomen	RAD_QMS-943_v5	40	Inside acceptable range



3. Arriving at the radiology department

1. Written tasks for secretary:

a. Is Rad-order compliant to the RIZIV/INAMI directions?

If not: follow the written working instructions:

ex. Urgent telephone orders

ex. Missing item (not signed) -> contact referring dr.

ex. Pt forgot his/her Rad-order



3. Arriving at the radiology department

- 1. Written tasks for secretary:
 - What if non-compliant to the RIZIV/INAMI directions?
 Each working instruction describes specific tasks to do, if examination can be performed or not and how to follow up on these non-compliant orders.

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Justification

3. Arriving at the radiology department

- 1. Tasks for secretary:
- a. Is Rad-order compliant to the RIZIV/INAMI directions?
- b. Is the contraindications safety list completed?(MRI/CT/contrast)
- c. Is requested examination part of the 'don't book list'?
- d. Scan the Rad-order (documentation)

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Justification

3. Arriving at the radiology department

2. Tasks for nurses/technicians:

X-Ray

- a. Is examination compliant to the guidelines?
 ex. XR Sinus => ask radiologist for substitution
- a. Is examination compliant to our working instructions?
 ex. XR comparing sides => ask radiologist
- b. General training: XR 'whole body': get's picked up by tech
- a. Safety: pregnancy status; modality can't be started without written registration



3. Arriving at the radiology department

2. Tasks for nurses/technicians:

Contrast examination (non-CT, non-MRI), CT, MRI, interventional radiology (ultrasound):

=> Always check written justification by radiologist

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Justification

3. Arriving at the radiology department

2. Tasks for nurses/technicians:

Execution examination

a.Pt identification: 'active'

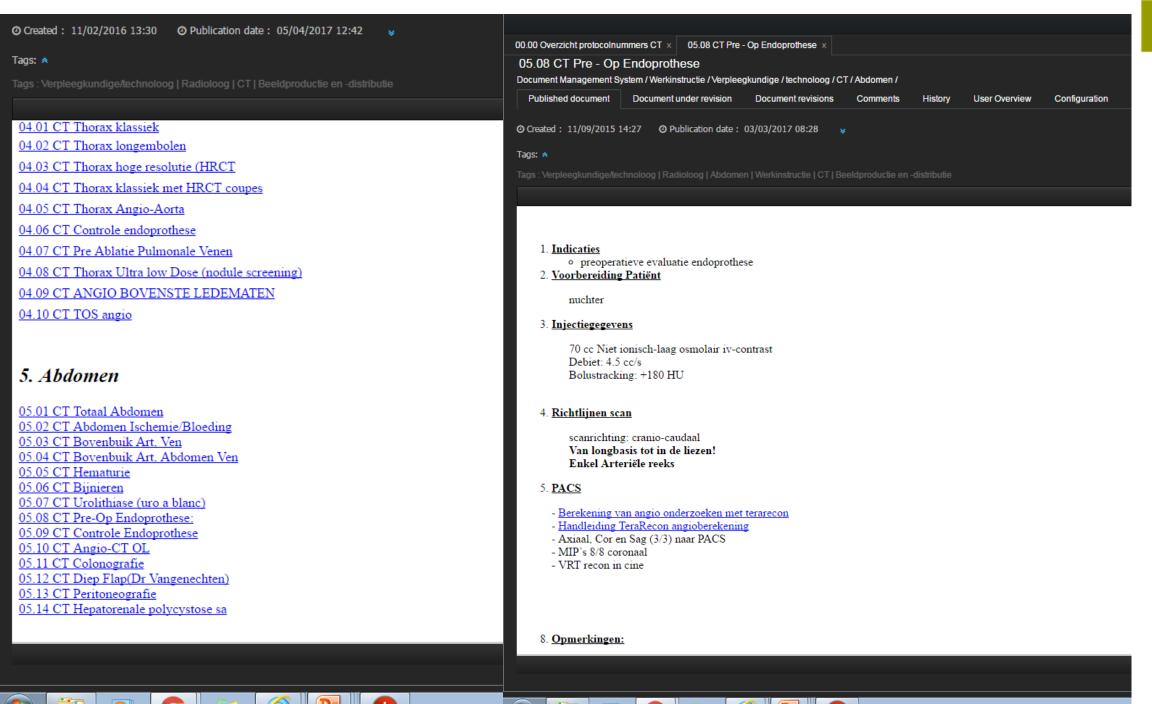
b.Check safety list on the order => Always verify by asking

c. Pregnancy status: mandatory by digital way: can't start modality if not asked (and registration who asked the patient)

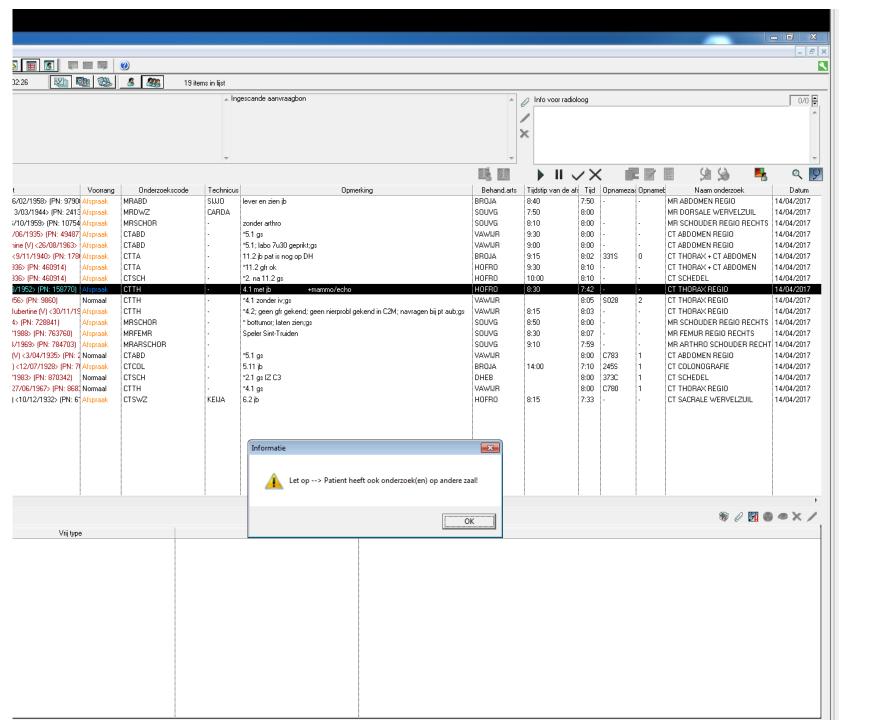
d.Select correct working instruction according to justification process by radiologist



- 3. Arriving at the radiology department
 - 3. Tasks for radiologists
 - a. Written justification of each MRI, CT, contrast examination
 * if exam is correct ordered
 - => check safety: renal function / allergy
 - => selection of appropriate working instruction ex. Multifasic CT or not

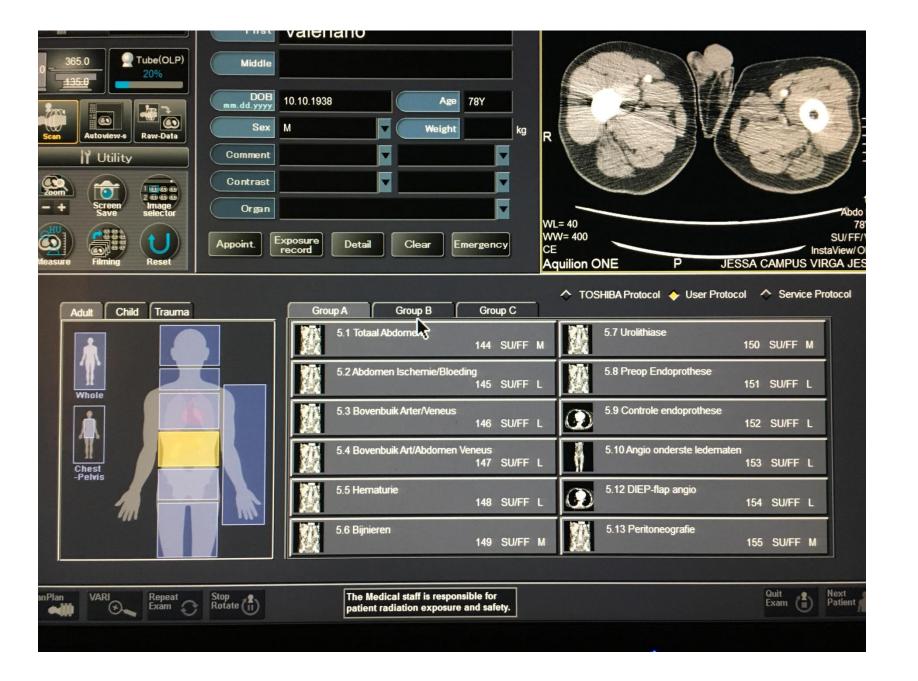




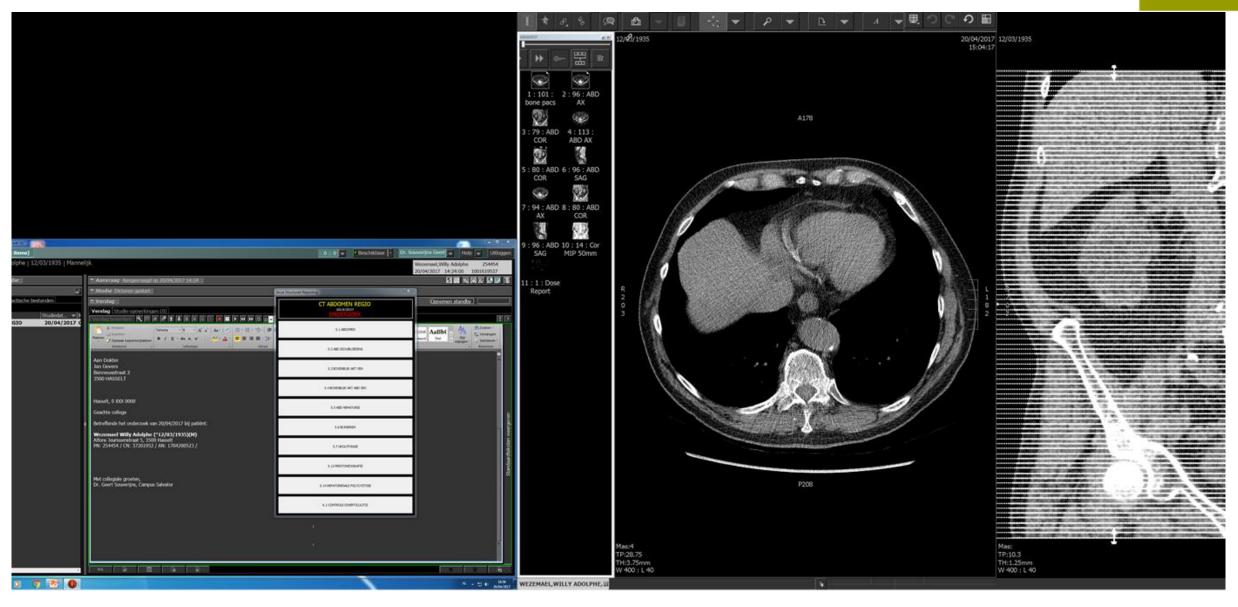














- 3. Arriving at the radiology department
 - 3. Tasks for radiologists
 - a. Written justification of each MRI, CT, contrast examination
 - b. If substitution was mandatory
 - => contact referring dr: is training!
 - => registration in RIS and report

- 3. Arriving at the radiology department
 - 3. Tasks for radiologists



opportunity:

self-referring:

non-radiologists need to do justification radiologist: 'please follow-up with MRI'







SAVE THE DATE

MR SAFETY SYMPOSIUM

SAFETY MEASURES in patients when MR-conditional implants are present pacemaker/ ICD | neuro-stimulation | other devices...

SATURDAY 20 MAY 2017

Jessa hospital | campus Salvator Salvatorstraat 20, 3500 Hasselt, Belgium

Registration: symposia@jessazh.be