

Ask EuroSafe Imaging Tips & Tricks

Paediatric Working Group

Referral Guidelines for Diagnostic Imaging in Children: ESR iGuide

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Justification



- Justification – together with optimization – is one of the mainstays of radiation protection
- Any exposure from diagnostic imaging is justified if it can provide the benefits of a prompt diagnosis and adequate treatment: these benefits always outweigh any associated risk such as a small additional risk of cancer due to the exposure to radiation

Council Directive 2013/59/EURATOM: Justification and Referral Guidelines for Diagnostic Imaging



- **Article 55** requires that Medical exposure shall show a sufficient net benefit, weighing the total potential diagnostic or therapeutic benefits it produces... against the individual detriment that the exposure might cause, taking into account... alternative techniques having the same objective but involving no or less exposure to ionising radiation
- **Article 57** requires that the referrer and the practitioner are involved, as specified by Member States, in the justification process of individual medical exposures
- **Article 58** requires that Member States shall ensure that referral guidelines for medical imaging, taking into account the radiation doses, are available to the referrers

Referral Guidelines for Diagnostic Imaging

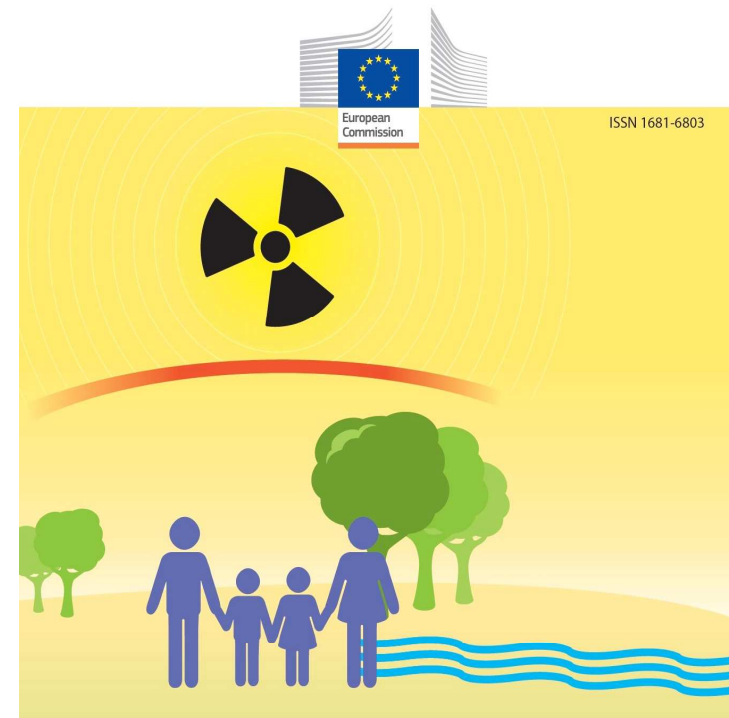


- Referral guidelines for diagnostic imaging support the best use of clinical radiology as long as they:
 - conform to the best evidence-based standards
 - protects the patient from unnecessary exposure to ionising radiation
 - provide dedicated guidance for children and pregnant women/unborn children
 - provide the evidence for which imaging resources can be used efficiently and effectively

Radiation Protection N° 178 (2014)



- RP 178 (2014) provides information on Referral Guidelines for Medical Imaging availability and use in the European Union based on a European-wide survey



Radiation Protection

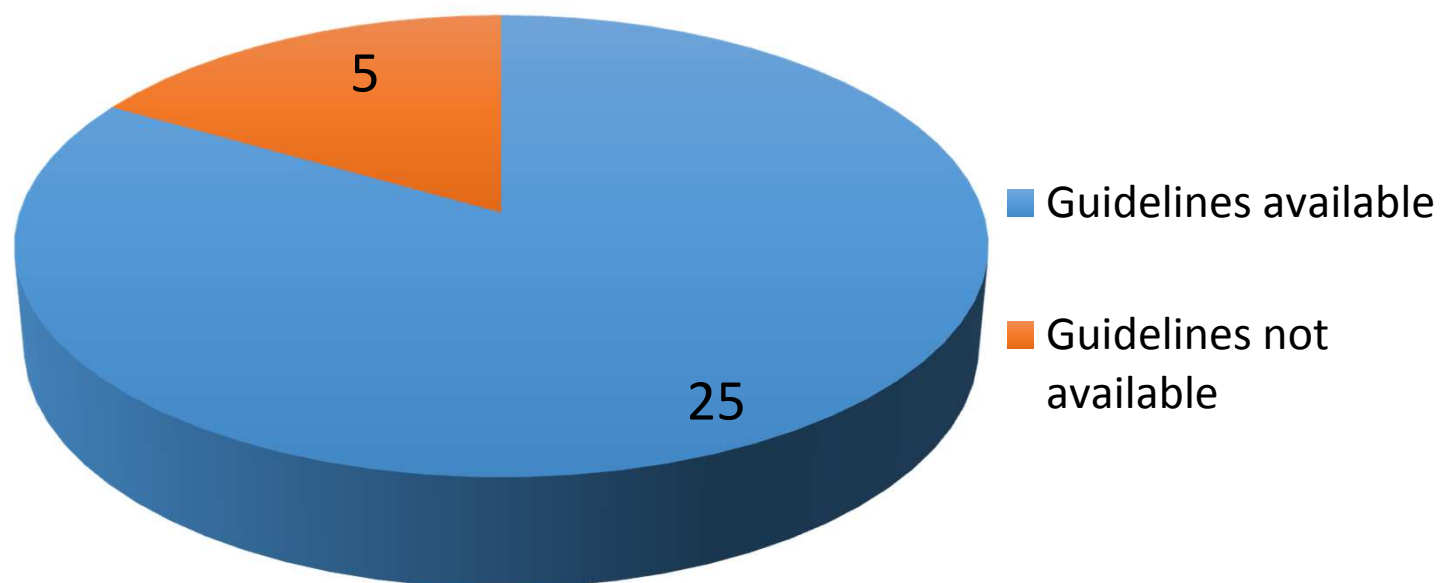
N° 178

*Referral Guidelines for Medical Imaging
Availability and Use in the European Union*

Availability of Referral Guidelines in Europe



- 30 European Countries provided information



RP 178, 2014

Guidelines development methodology

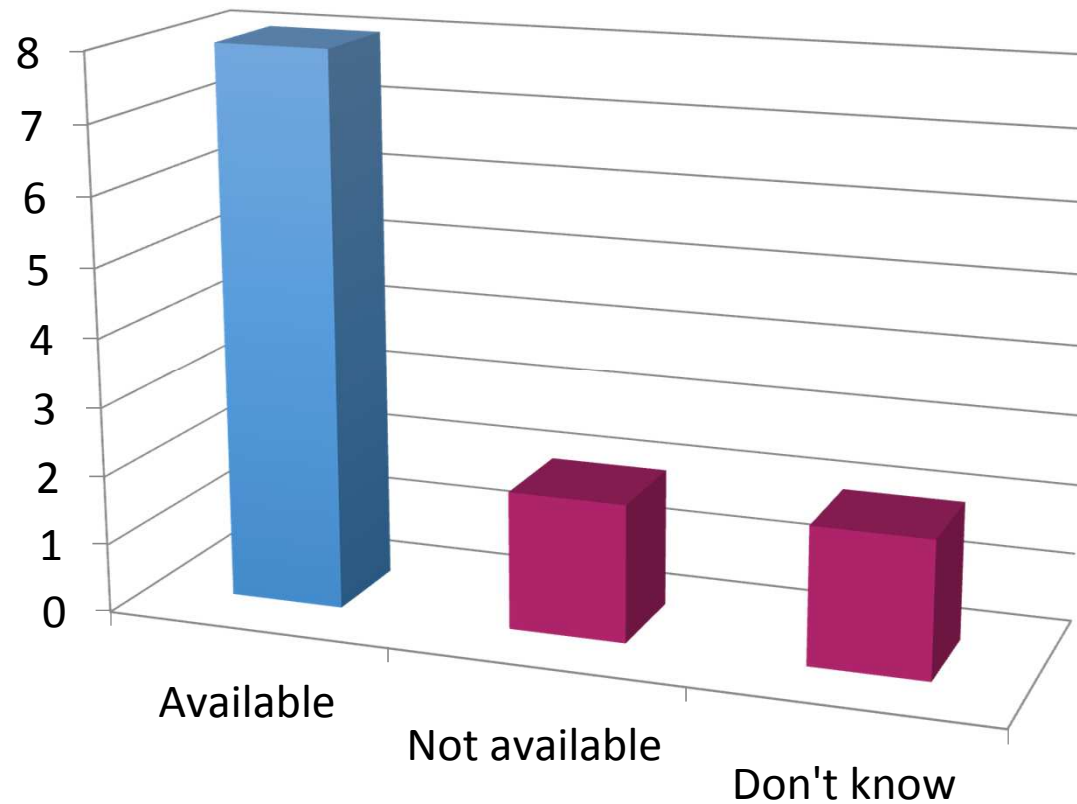


- In only 2 countries did guidelines include ALL of these features:
 - radiation dose information
 - specific advice for imaging children
 - specific advice for the pregnant woman/unborn child
 - an evidence based process
 - formal consensus for recommendations

RP 178, 2014

Availability of separate guidance for children

- Only 12 out of 30 EU Countries provided information



RP 178, 2014

Guidelines availability and update



- **It appears from RP 178 document that in several European countries referral guidelines for children may be unavailable or not regularly updated**
- The year of the first edition of imaging guidelines varied from 1989 to 2005
- The approximate duration of the review cycle has varied between countries from 3-4 years to over 6 years, in some countries it is even over 10 years

RP 178, 2014

- ESR iGuide is the ESR solution to make imaging referral guidelines – **including separate guidance for children** – readily available and easily usable across Europe
- ESR iGuide guidelines are embedded in a clinical decision support platform, which allows users to localise the recommendations according to their needs starting from an evidence-based-core
- ESR iGuide is designed to be a user-friendly system available to referring physicians at the point of care
- ESR iGuide has been freely available through the ESR website since 2018

- ESR iGuide is based on the Appropriateness Criteria developed by the American College of Radiology (ACR), reviewed by a team of senior radiologists
- Recommendations for topic groups including Breast, Cardiac, Gastrointestinal, Musculoskeletal, Neurologic, **Paediatric**, Thoracic, Urologic, Vascular and Women's Imaging are provided
- **Separate guidance for children includes 320 indications/scenarios with 2465 scored decision rules**
- Annual update are provided in cooperation with the ACR's Rapid Response Committee

ESR iGuide: an example of clinical scenario

First febrile urinary infection in a 6-y-old male

ESR iGUIDE

EUROPEAN SOCIETY OF RADIOLOGY

6 year old Male

Edit

Service: Not Selected

Edit

Indication(s):

Ped 2m- 6y, UTI, first febrile, response to abx ✕

Appropriateness rankings for a 6 year old Male

Appropriateness

Clinical scenario

Relative Radiation Level

Appropriateness	Service	Imaging study	Cost	RRL
7	US, abdomen-pelvis, kidneys-bladder		€€	
4	FLUOR, VCUG		€	☢
4	NUC, cystography, pelvis		€€	☢
3	NUC, renography, abdomen, kidney, cortical		€€	☢☢☢

Rating Scale: 1,2,3 Usually not appropriate; 4,5,6 May be appropriate; 7,8,9 Usually appropriate

***Relative Radiation Level**

Conclusions



- It is common experience that imaging referral guidelines – although available - are often not consistently used
- Educational initiatives are needed to improve implementation, involving referring clinicians in guidelines development
- Guidelines should be integrated into clinical decision support systems and, as future development, provision of guidance through existing electronic requesting systems
- ESR iGuide represents a solution to make imaging referral guidelines – **including separate guidance for children** – readily available and easily usable across Europe

References



- EC RP 178, 2014

<https://ec.europa.eu/energy/sites/ener/files/documents/178.pdf>

- ESR iGuide

<http://www.esriguide.org>