

European Society of Urogenital Radiology (ESUR) guidelines on MR imaging prior to fertility-sparing treatments in patients with cervical, endometrial, and ovarian cancers

ELECTRONIC SUPPLEMENTARY MATERIAL

Methods- Detailed steps for the guidelines development

- 1) Team design: the ESUR Female Pelvis working group designated the guideline chairs (BG, LM), who recruited additional members within the working group through an expression of interest call. Selection criteria included a history of peer-reviewed publications in the field and a representation of a broad geographic diversity. Additionally, two gynaecologic oncology experts were incorporated to enrich the guidelines' clinical relevance. Furthermore, two radiologists from the ESUR Junior Network were included.

- 2) Literature search: LR and CC conducted a comprehensive literature search on clinical and imaging aspects of gynaecologic cancers candidates for fertility-sparing treatment searching for manuscripts published until 28th February 2025 on PubMed, Scopus, Embase, Web of Science and Cochrane Library. The search string for imaging-specific literature used the following key words combinations: [(cervix) OR (cervical) OR (endometrial) OR (ovarian) AND ((tumor) OR (cancer) OR (neoplasm)) AND ((fertility-sparing) OR (conisation) OR (trachelectomy) OR (fertility-sparing surgery)) AND ((MRI) OR (magnetic resonance imaging))]. The literature search for non-specific imaging-related literature was conducted removing MRI from the search string. In details, the following search string was used: [(cervix) OR (cervical) OR (endometrial) OR (ovarian) AND ((tumor) OR (cancer) OR (neoplasm)) AND ((fertility-sparing) OR (conisation) OR (trachelectomy) OR (fertility-sparing surgery))].

- 3) Questionnaire development and distribution: BG and LR formulated a detailed questionnaire consisting of 104 questions across five sections. This survey was designed to cover general characteristics of the panel, MR imaging preparation, equipment, protocols, and reporting standards
- 4) Data analysis and panel discussion: responses were collected in December 2023 and analysed by BG and LR. Each survey item was categorised based on the level of consensus among respondents: "RECOMMENDED" for items with at least 80% agreement, "NOT RECOMMENDED" for items with at least 80% disagreement, and "UNCERTAIN" for items where consensus fell below 80%. In September 2024, "UNCERTAIN" items underwent a second-round evaluation. Those achieving a consensus of 80% or higher were designated as "RECOMMENDED", while items supported by most panellists (at least 50%) were categorised as "SUGGESTED".
- 5) Data reporting: BG and LR performed the final analysis, categorising each guideline item as either "RECOMMENDED", "SUGGESTED" or "NOT RECOMMENDED" based on the consensus levels.

Results

Panel composition

The panel included 14 experts from 10 distinct institutions. Of these, eleven members represented European centres: Italy (n = 5), France (n = 2), Portugal (n = 1), Spain (n = 1), Switzerland (n = 1) and the United Kingdom (n = 1). Three panellists were from the three institutions outside Europe: USA (n = 2) and Uruguay (n = 1). The members' training years of experience in gynaecologic imaging ranged between 6-30 years.