



Breast imaging in South Africa

An interview with Dr. Eugene Jooste, a consultant radiologist at the private practice of Capital Radiology, based at the Life Groenkloof Hospital in Pretoria, and former Chairman of the Breast Imaging Society of South Africa (BISSA).

European Society of Radiology: *Breast imaging is widely known for its role in the detection of breast cancer. Could you please briefly outline the advantages and disadvantages of the various modalities used in this regard?*

Eugene Jooste:

Ultrasound:

Advantages: Generally readily available and relatively affordable
Relatively uncomplicated assistance with guided biopsy

Disadvantages: Operator dependent
Microcalcification not always visible

Mammography:

Advantages: Ability to detect suspicious microcalcifications and distortions
Comparison with previous studies
Assist with guided biopsies of suspicious areas

Disadvantages: More expensive and less commonly available
High level of imaging quality required
High level of dedicated Radiology experience
Radiation (low dose)

Breast MRI:

Advantages: Most sensitive modality to assess malignancy in the breasts

Disadvantages: Expensive
Uncomfortable environment
High level of dedicated Radiology experience

ESR: *The most common method for breast examination is mammography. When detecting a possible malignancy, which steps are taken next? Are other modalities used for confirmation?*

Eugene Jooste: Additional views are obtained in order to confirm or exclude the presence of suspicious findings. Ultrasound will be performed in order to obtain additional information and to do guided biopsy if required.

Breast MRI can be performed to further characterise the abnormality and to assess the area of involvement and possible additional abnormalities (including in the other breast).

ESR: *Diagnosing disease might be the best-known use of imaging, but how can imaging be employed in other stages of breast disease management?*

Eugene Jooste: CT studies are also used in the staging of disease and follow-up after treatment in the case of distant metastases. MRI is used in following up high risk individuals.

ESR: *What should patients keep in mind before undergoing an imaging exam? Do patients undergoing radiological exams generally experience any discomfort?*

Eugene Jooste: Fear of the unknown generally adds to the anxiety associated with breast imaging. Anecdotal feedback is mostly that of pain and discomfort.

If you experience breast pain at certain points in your menstrual cycle, keep this in mind when scheduling an exam.

Mammography will be painful if you have painful or sensitive breasts, but generally feedback after mammography is that the procedure was not as uncomfortable as expected and that other stories are exaggerated.

Ultrasound is associated with cold jelly on the skin. Warming the jelly goes a long way to making the investigation more manageable.

***ESR:** How do radiologists' interpretations help in reaching a diagnosis? What kind of safeguards help to avoid mistakes in image interpretation and ensure consistency?*

Eugene Jooste: Breast cancer diagnosis should be made by the radiologist. Always do Rad-Path (radiologic pathologic concordance assessment) correlation when interpreting pathology results. Have regular interdisciplinary meetings where cancer and complicated cases are discussed. Do regular audits of the practice in order to ensure compliance with international standards.

***ESR:** When detecting a malignancy, how is the patient usually informed and by whom?*

Eugene Jooste: Depending on circumstances, the patient is either informed by the referring doctor or by the radiologist. This is mostly done by telephone or the patient can be called in to be given the news and for possible management options to be discussed.

***ESR:** Some imaging technology, such as x-ray and CT, uses ionising radiation. How do the risks associated with radiation exposure compare with the benefits? How can patient safety be ensured when using these modalities?*

Eugene Jooste: Mammography requires very small doses of radiation. The benefits of mammography almost always outweigh the potential harm with radiation exposure. The mammography equipment we use in our department is designed to lower the radiation by another 30 % in almost all our screening patients.

***ESR:** How aware are patients of the risks of radiation exposure? How do you address the issue with them?*

Eugene Jooste: Most patients are aware of the general risks associated with exposure to radiation. We follow the ALARA (As Low As Reasonably Achievable) principle with regard to radiation dose, but we do also reassure patients that the radiation associated with mammography is very low and the radiation is comparable with that received on a long-haul international flight, for example.

***ESR:** How much interaction do you usually have with your patients? Could this be improved and, if yes, how?*

Eugene Jooste: We have a high level of interaction with our patients and all are immediately informed of the results before they leave the department.

***ESR:** How do you think breast imaging will evolve over the next decade and how will this change patient care? How involved are radiologists in these developments and what other physicians are involved in the process?*

Eugene Jooste: I believe that imaging modalities will become more comfortable for the patient in the future. Increased accuracy will lead to fewer false positives. Risk management and genetic counselling will play progressively more important roles as the different characteristics of breast cancers are identified, and this will also result in tailored approaches to treatment and follow-up options.



Dr. Eugene Jooste trained at the Bloemfontein Complex of Academic Hospitals in the Free State Province of South Africa. He qualified as a radiologist in 1997 and spent nearly fifteen years in private practice in Gaborone, the capital of Botswana.

In 2012 he joined Capital Radiology (private practice) based at the Life Groenkloof Hospital in Pretoria, where he became involved in breast imaging beyond the level of general practice.

Dr. Jooste is former Chairman of the Breast Imaging Society of South Africa (BISSA), a sub-group of the Radiological Society of South Africa, and has to date arranged two international conferences of which the most recent was held in May 2016 together with the Society of Breast Imaging.