



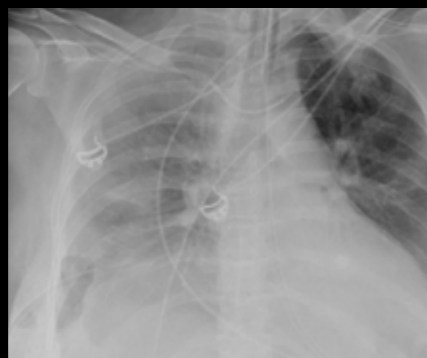
## **Advanced Edge Enhancement**

Improved visualization of tubes,  
catheters and bone details

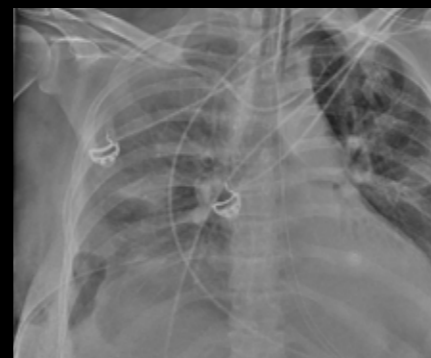
## Three different types of Advanced Edge Enhancement are available

### Catheter:

- This type is to enhance the display of catheters, soft tissues and bone tissues. Select this option when you want to make catheters more visible in mainly adults' chest or abdomen, or when you would like more visibility of soft tissue or bone tissues such as cervical spine, extremities and pelvis.



Before



After

### Small Structure:

- This type is to enhance the display of small structures in the body. Select this option when you want to make catheters used mainly for children or infants more visible.



Before



After

### Bone:

- This type is to enhance the edge of bone tissues. Select this option when you want to make bone tissues in full spinal images or full leg images, mainly acquired with long-length imaging, more visible.



Before



After

## Improved interpretation confidence and radiologist reading efficiency

A portable chest radiograph may be properly rendered and displayed with excellent overall diagnostic quality, yet it may still be challenging to localize tube and line tips in underpenetrated regions, such as in the mediastinum and sub-diaphragm. In order to preserve global contrast and brightness for the overall image, gray levels may be quantized in the underpenetrated regions, which will cause some degree of detail contrast loss in the mediastinum.

Canon's "Advanced Edge Enhancement" image processing is designed to enhance the visualization of tubes, catheters and bone details. Besides the original diagnostic image, additional companion views can be added for a specific diagnostic or clinical purpose. Advanced Edge Enhancement filter type and effect can be pre-defined in each protocol.

**Sharper images and lower radiation dose with Canon's new software is reality. A software filter enhances the original image and catheters with anatomic structures. The result is that the medical information appears more clearly on the screen.**



Linköping University hospital, Sweden

Linköping University hospital uses Canon's latest software, Advanced Edge Enhancement, with great success. Especially when treating bedridden patients.

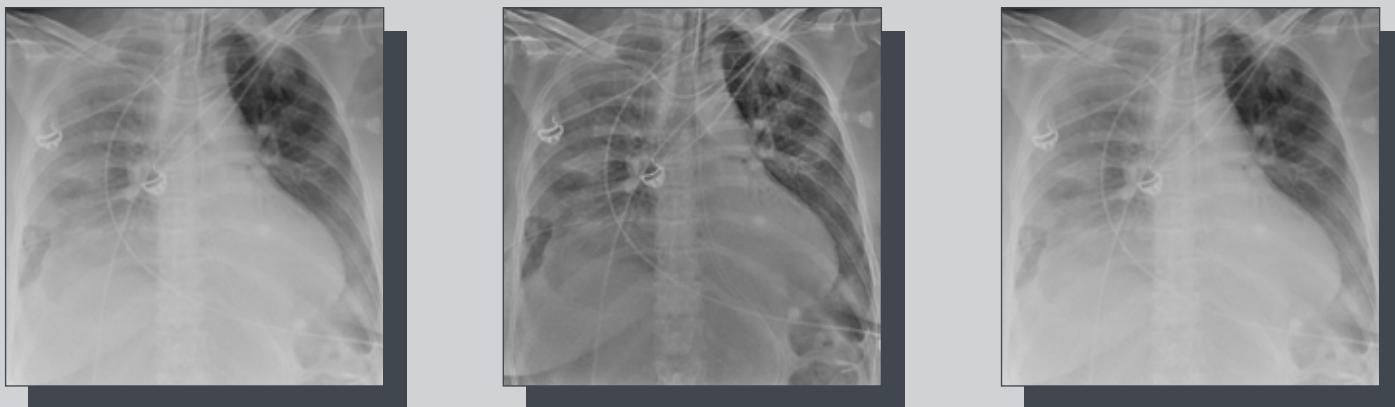
The Canon AEE software has given further improvements. At the moment it is usually enough to take a single image to ensure that the quality is sufficient. It feels especially important when working with premature babies, both in view of the radiation dose and because we want to "disturb" as little as possible, says radiologist Susann Skoog.



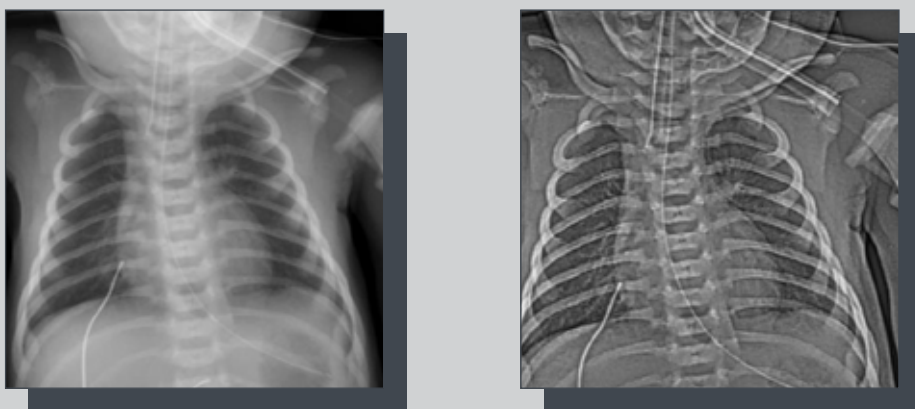
A central venous catheter, which is used to deliver drugs and take samples, can sometimes be difficult to discern on an X-ray image. Especially if the patient is very large and has several tubes in the body. Previously, when there was uncertainty after the investigation, it happened that the X-ray nurses had to take additional images to be on the safe side. We can usually avoid that now. Instead, this procedure can even be automated with Multiple Image Processing activated in the Protocol. Advanced Edge Enhancement enhances contrasts and catheters appear more clearly, says Susann Skoog.

The new Canon software includes a filter placed over the original image, which intensifies the sharpness. Foreign objects in the body are thus clearly visible on the X-ray image. When it comes to bed patients and young children, it can be difficult to distinguish the catheters properly. Especially if there are several tubes in the same area, says Susann Skoog. The University Hospital in Linköping is often at the forefront. Among other things, the hospital was the first to test and evaluate imaging without a physical grid, in 2016. At the time, the Scatter Correction software was installed in three of the mobile Movix units located in the X-ray department. According to the employees, the benefits were many, both in terms of staff ergonomics and because the radiation dose could be drastically reduced without the use of a grid.

Above all, the lung examinations on bed patients on the wards were facilitated easier.



*The software (Advanced Edge Enhancement) has three different image processing algorithms (Small structure, Bone and Catheter)*



*Examples of a pediatric lung original and with (Advanced Edge Enhancement)*

Imaging trial supported and done with courtesy of Mediel AB, Mölndal, Sweden distributor of Canon DR technology since 2001

For further information about the Canon Medical Imaging Group and details of local distributors please visit: [www.canon-europe.com/medical](http://www.canon-europe.com/medical)

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