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## SOFTVIEW PRODUCT FAQ's

### SoftView

1. What is SV?
  - a. SoftView is a software tool designed to provide a clearer view of lung tissue by suppressing rib and clavicle opacity.
2. What is the clinical benefit?
  - a. SoftView provides improved visibility of lung tissue through bone suppression. Two SoftView studies are reported at RSNA 2009. One shows that nodule conspicuity and contrast-to-noise ratio are significantly improved, while the other shows reader performance aided with SoftView is significantly improved. Additionally, as part of our regulatory submission, we completed a 15 reader retrospective reader study that again demonstrates a reader aided with SoftView is superior to an unaided reader.
3. How does SV work?
  - a. The SoftView **software** works by analyzing the lung region of a PA/AP chest x-ray for structures that morphologically (by their shape) resemble a rib or a clavicle. The identified regions are then subtracted from the image according to a mathematical model developed to suppress bone content without distorting the soft tissue content.
  - b. The SoftView **server** works by accepting standard chest PA/AP X-ray images either directly from the modality or PACS. The acquired images are then processed to produce the soft-tissue image, which is then sent to the PACS to be joined with the original study.
4. Does the image become part of the permanent record?
  - a. Yes, the SoftView image becomes a part of the patient's permanent record.
5. Is SoftView on a dedicated review station?
  - a. No, the SoftView image is stored as part of the original patient study and is available for review on the existing PACS review station with the original study.
6. Will it work with my PACS? Will it work with all PACS?

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- a. SoftView is fully DICOM compliant and has been installed in different environments containing all prominent PACS vendors' systems.
7. How much storage does it take?
    - a. SoftView adds one additional image to the chest study, where each image requires 8-10MB of storage.
  8. Who sees the SoftView image?
    - a. Anyone with access to the studies currently would also have access to the SoftView image as it is stored on the PACS as part of the original study. In some PACs systems, particular user profiles can be established to limit reader access.
  9. Are there any clinical publications available or in development on SoftView?
    - a. Improved Detection of Small Lung Cancers by Use of Bone Suppression Chest Images: Comparison with Dual-Energy Subtraction Chest Radiographs, Li, Feng, et. al., Univ of Chicago – RSNA 2009
    - b. Improved Conspicuity of Small Lung Nodules on Bone Suppression Chest Images, Li, Feng, et. al., Univ of Chicago – RSNA 2009
  10. Are there any claims to be made on improved nodule detection rate?
    - a. Two publications at this year's RSNA along with our regulatory submission. (see Q2)
  11. How can I be sure that artifacts are not created when suppressing the ribs and clavicles?
    - a. SoftView has been exhaustively tested across a wide range of CR and DR devices and SoftView's effectiveness has been demonstrated in reader studies. Furthermore, it only subtracts from the image, it does not add to it. SoftView is not a stand alone image; it is always presented as part of the original chest x-ray study. Just as the PA and lateral views are used to differentiate superposition effects from real structure, the original study PA image provides additional reference in support of findings in the SoftView image.
  12. How is this different from Dual Energy Subtraction (DES)?

- a. SoftView is based entirely on Software, while DES systems are mainly hardware. However, SoftView's outcome is very consistent with DES with respect to bone suppression. In fact, SoftView is developed using DES data and is a mathematical model of the dual energy subtraction process. Because SoftView utilizes the standard image, which typically has a superior image quality as compared to a soft-tissue image generated by a DES system, SoftView's image quality is commonly superior to DES in the dense areas.
13. Why doesn't it work on the lateral?
- a. SoftView identifies bone content based on morphology. Since the shape of the ribs is different in the lateral than in the PA, the model developed for the PA cannot be effectively applied to the lateral image.
14. What happens to calcified nodules over the ribs when SoftView is applied?
- a. SoftView preserves the appearance of calcified nodules superimposed with ribs as SoftView performs suppression based on morphology, not differential absorption characteristics; therefore, a calcified nodule would persist, as would any dense object that has morphology (shape) that is inconsistent with the morphology of a rib.
15. How will SoftView improve workflow?
- a. Although no comprehensive timing studies have been conducted, some radiologists believe the availability of a soft tissue image actually reduces their reading time. This is likely true as the un-obscured view of the soft tissues simplifies the interpretation task.
16. How long does it take to process an image?
- a. SoftView can process an image in less than 20 seconds.