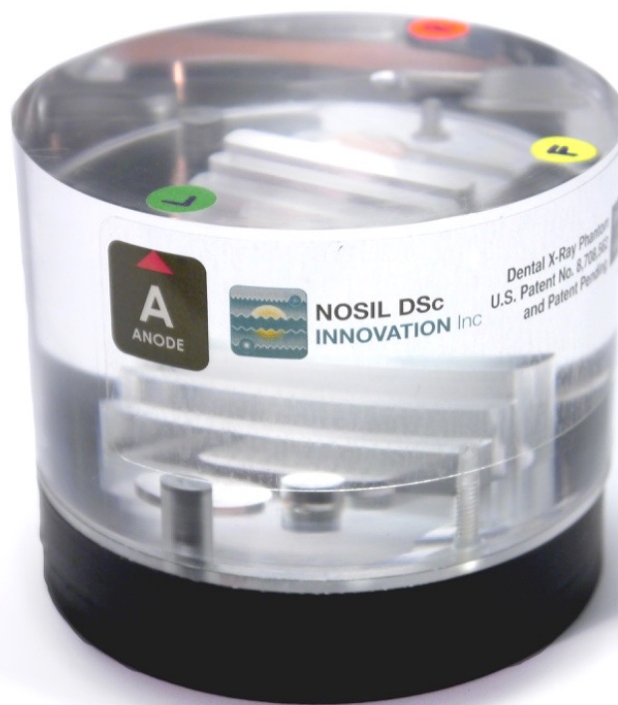


## DENTAL QUALITY IMAGES AND DOSE PHANTOM IQ(D)P PROTOCOL

VGA together with IQ(D)P provides an easy, clinically justifiable combination.

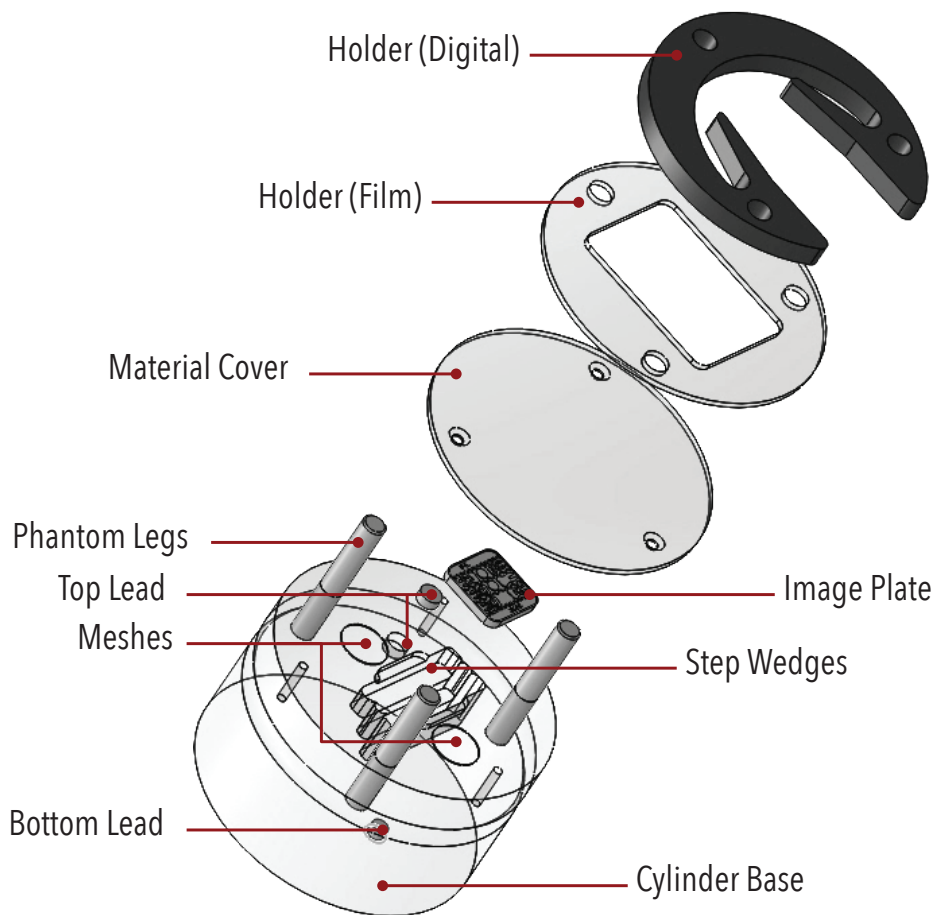
With some basic, short training, dental x-ray operators use IQ(D)P and perform Quality Assurance with increased productivity. The gain is that it could provide the dentist with early notification of malfunction of the x-ray system, before it is noted on clinical images. This way unit complete downtime is avoided.

We need dental phantoms and protocols that are promising the same advances in dental x-ray imaging that are the norm in other diagnostic modalities in medical imaging.



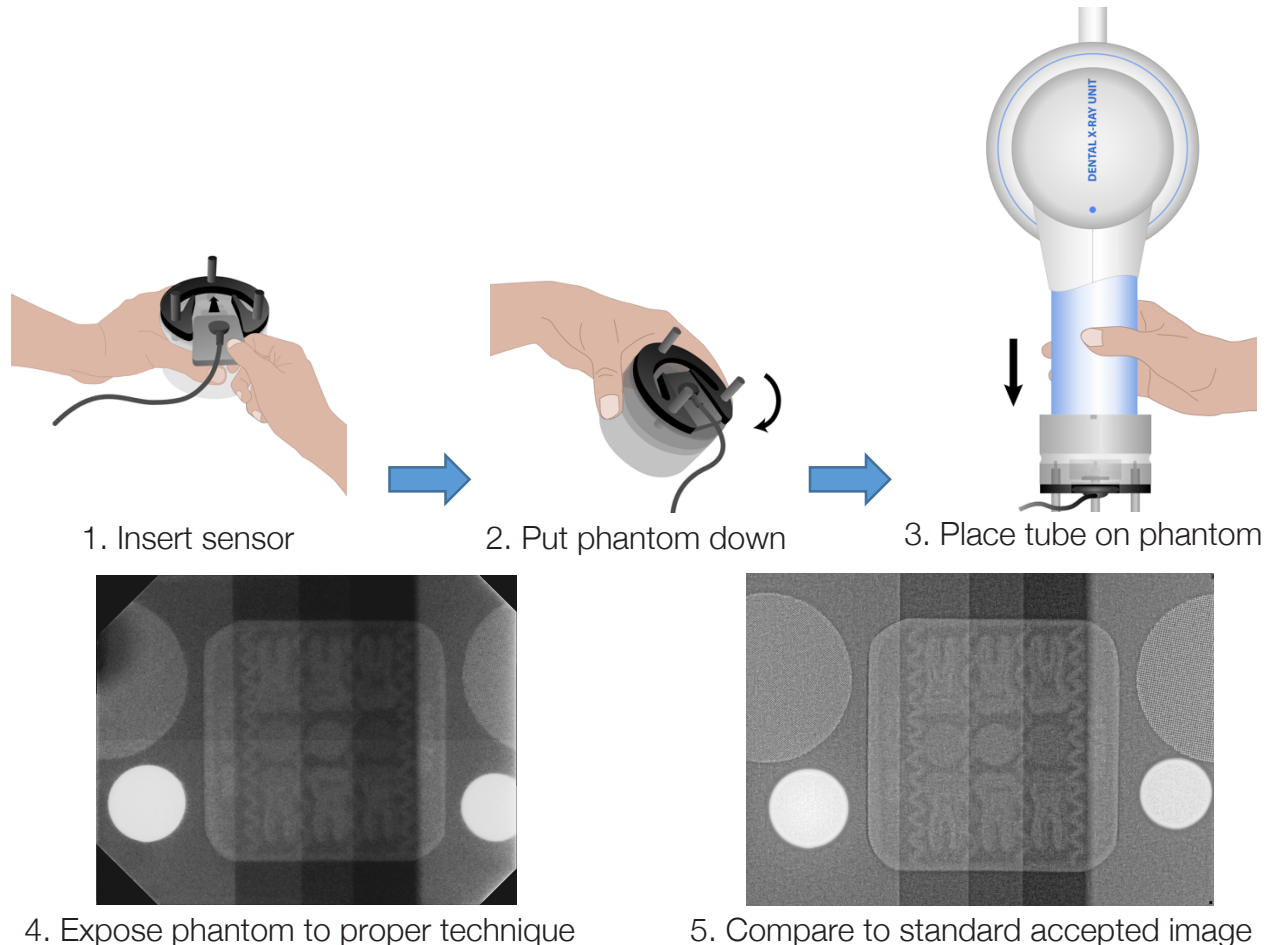
*Figure 1: Photograph of the Dental X-Ray Phantom. There are many inserts inside phantom designed to replicate clinical possibilities.*

Dental x-ray equipment is becoming more sophisticated and used more widely. This increased usage results in more x-ray images and a higher dose to patients. Since the patients exposed to dental x-rays differ widely in size and composition, they do not provide the best model for the testing of the x-ray unit. As a consequence, a light, compact ‘phantom’ has been developed, the use of which by certified dental assistants will give a realistic assessment of the proper functioning of an intra-oral x-ray unit. Routine (weekly) exposures of the phantom and the examination of the images will ensure that the quality of the images remains satisfactory with the passage of time. This will guarantee the best diagnostic images with acceptable radiation exposures.



*Figure 2: Phantom Components: **ONE LOOKS FOR UNIT** Ability to visualize various inserts. We have given lots of thoughts in the design of objects.*

“What makes this phantom unique is its ability to replicate dental x-ray exposure to the human jaw, jawbone, and teeth for x-ray attenuation and spectral response. It is the only technology that permits analysis about actual human jaw and teeth. It is simple, reproducible and consistent and it is easier than taking patient intraoral images shown in the picture on the lower two images. It takes less than 10 minutes to set up (as illustrated on steps 1, 2, 3, 4 and 5), expose, review, and then digitally save the resulting images as on the bottom steps 4 or 5). The phantom is durable and constructed as an integrated device with the user being able to quickly adjust to film, full digital or slim digital detector design.” The easy to follow “User Manual” guides the user with step by step instructions and illustrations. The design results in fast, accurate, and consistent application.



*Figure 3: Professional or Technical Schematic of phantom use VGA clinical protocol*