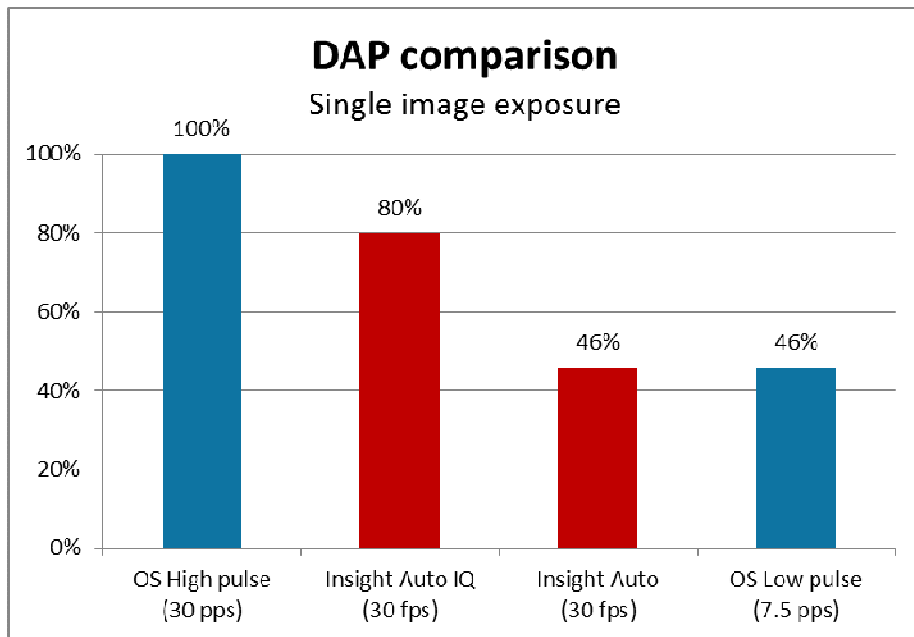


**Figure 1:**  
**InSight FD = 14% - 44% lower DAP than competitor in std. 30 pps mode**  
 Dose Area Product (DAP) comparison on a hand phantom, 10 s exposure,  
 between the OrthoScan (OS) FD-Pulse and the Hologic InSight FD.



**Figure 2:**  
**InSight FD = 20% - 54% lower DAP than competitor in std. 30 pps mode**  
 Dose Area Product (DAP) comparison on a knee phantom, single image acquisition,  
 between the OrthoScan (OS) FD-Pulse and the Hologic InSight FD.

■ OrthoScan FD Pulse  
 pps = Pulses/second
     
 ■ Hologic InSight-FD  
 fps = Frames/second

\* DAP Comparison: These measurements were performed by Kevin Wilson, PhD., Scientific Director, Hologic, Inc. and are further described on the next page.

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### **Dose testing summary:**

Dose Area Product (DAP) measurements were done with a PTW Diamentor M4 Dose Area Product Meter. Scatter measurements were done with an Unfors Meter: 8201021-H, Survey Detector: 8202060-B

All radiation detection equipment had been calibrated within the last year.

Anatomical phantoms were products of “The Phantom Laboratory” Greenwich, NY and designed for radiography use. The ANSI knee phantom was composed of a 2mm aluminum sheet with 1” thick PMMA on each side.

Testing was done on the same day by Hologic employees on the Orthoscan FD-Pulse and the Insight-FD using identical test configurations, phantoms, and test equipment.

Orthoscan FD-Pulse Noise suppression was set at KFactor 8, as recommended by the manual.

Insight-FD Noise suppression was set to “Auto”.

### **Scatter Measurements:**

An anatomical knee phantom was used to determine the lateral knee technique factors (kVp and mA) after 10 sec. of exposure used by each Fluoroscopy device. The anatomical knee phantom was then replaced by the ANSI knee phantom for the scatter measurements.

Scatter radiation measured at the front of the detector (opposite C-arm) and 250 mm from the front edge of ANSI knee phantom.

- OrthoScan FD-Pulse, High Pulse: 75kVp/.100 mA – **890  $\mu$  Gy/hr**
- OrthoScan FD-Pulse, Med Pulse: 75kVp/.100 mA – **460  $\mu$  Gy/hr**
- OrthoScan FD-Pulse, Low Pulse: 73kVp/.096 mA – **268  $\mu$  Gy/hr**
  
- Hologic Insight-FD, AutoIQ: 67kVp/.100 mA – **610  $\mu$  Gy/hr**
- Hologic Insight-FD, Auto: 63kVp/.082 mA – **412  $\mu$  Gy/hr**

### **Dose testing conclusion:**

As can be seen from the preceding figures, the “OrthoScan FD Pulse” unit tested offers no significant dose savings compared to the “Hologic InSight-FD”, and in most standard imaging, has higher DAP (dose area product) due to the larger square detector.

The emitted scattered radiation tends to be somewhat higher than the InSight-FD due to the larger plate and the higher technique factors (kVp and mA) used by the OS FD-Pulse system.

The “pulse” feature of the OS FD-Pulse is only able to bring the dose down to levels comparable to the InSight-FD. In addition, it was noted the OS FD-Pulse lacks a “snapshot” mode or any indication that an exposure is complete or acceptable, which has the potential to increase dose compared to the InSight-FD for single image acquisitions. The InSight-FD “snapshot” mode automatically terminates the exposure thus reducing the potential of over exposure for a single image acquisitions.

*Kevin Wilson, PhD.  
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