

VeriSuite© featuring... recotom©



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A new CBCT reconstruction algorithm eliminating jittering, patient movement & metal artifacts in CBCT

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We introduce recotom©, a new reconstruction algorithm for cone beam computed tomography (CBCT). It offers innovative correction algorithms aiming to mitigate typical CBCT artifacts, such as jittering, patient movement & metal artifacts.

Jitter artifacts are caused by inaccurate projection parameters due to stochastic, unpredictable vibrations of the scanner. Unlike conventional methods, recotom© can correct these artifacts on-the-fly based only on the input X-ray images, i.e. without requiring any additional hardware or fiducial markers (fig 1).

Patient motion during image acquisition can also be compensated by the reconstruction algorithm. This “virtual immobilization” results in reduced blurring and streaking artifacts (fig 2).

Metal artifacts severely degrade the reconstruction quality and may obscure relevant anatomy. Such artifacts could be de-facto eliminated with recotom©, i.e. details lost in the corrupted regions are recovered (fig 3).

recotom© is integrated in VeriSuite© 2.2 and is clinically used in Samsung Medical Center in Korea and Sapporo Teishinkai Hospital in Japan. Together with the dynamic gain functionality of 4030d panels, **soft tissue** contrast could be highly improved (fig 4). This enables VeriSuite© to perform highly accurate 3D/3D registration with the planning CT volume. *All here mentioned features will be available with VeriSuite© 2.3B200.*

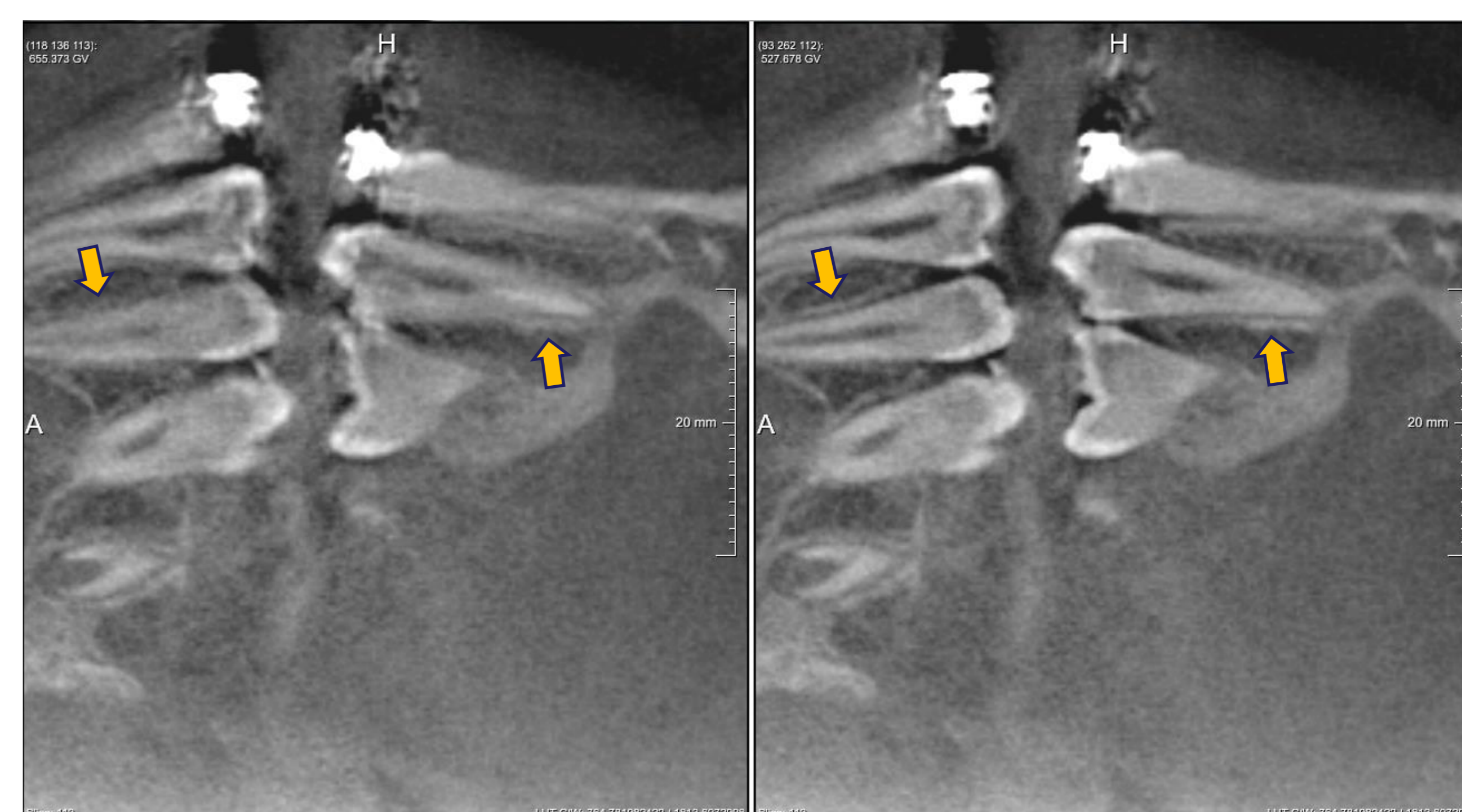


Fig 1: Jitter correction activated on the right image

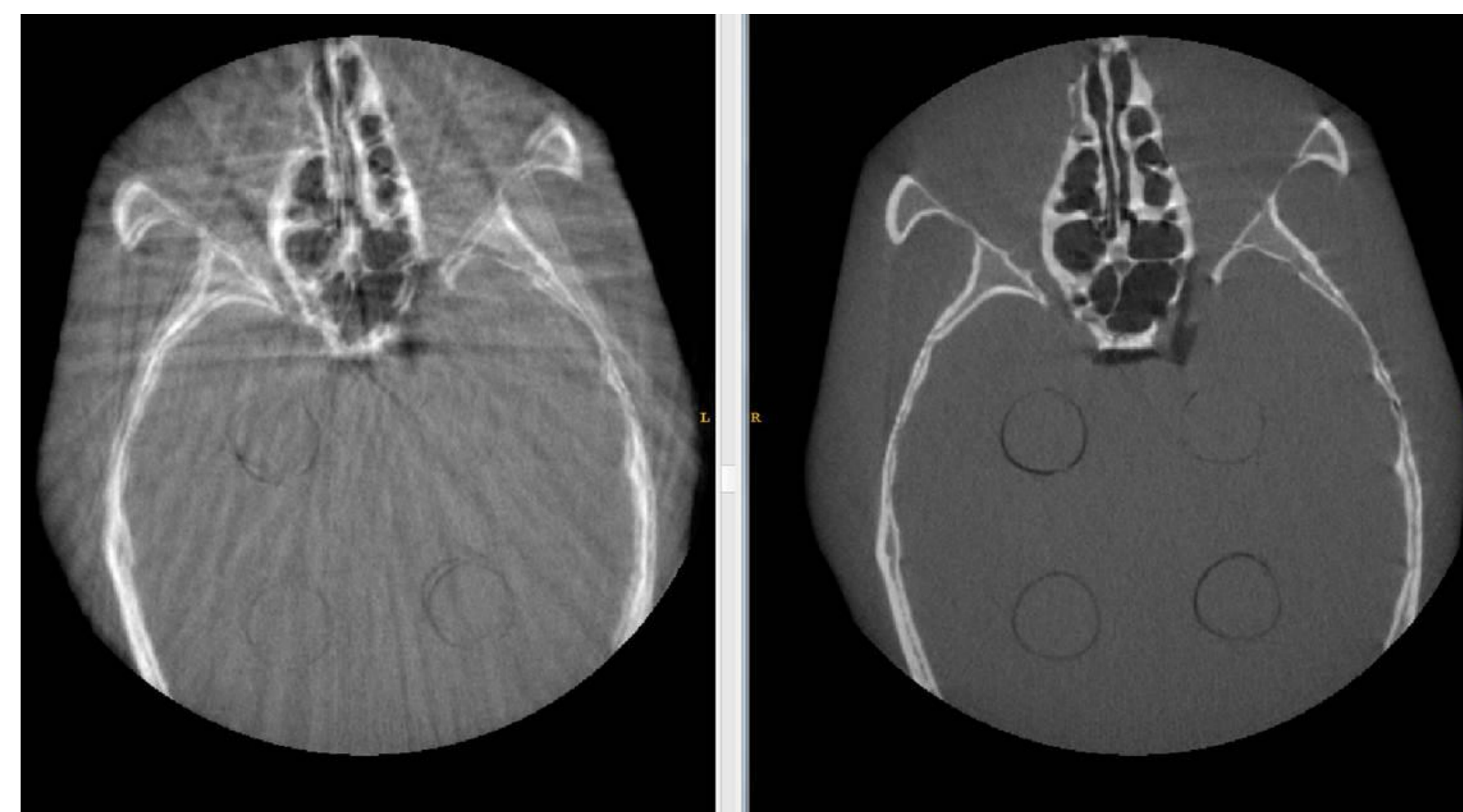


Fig 2: Motion (left) vs. motion correction (right)

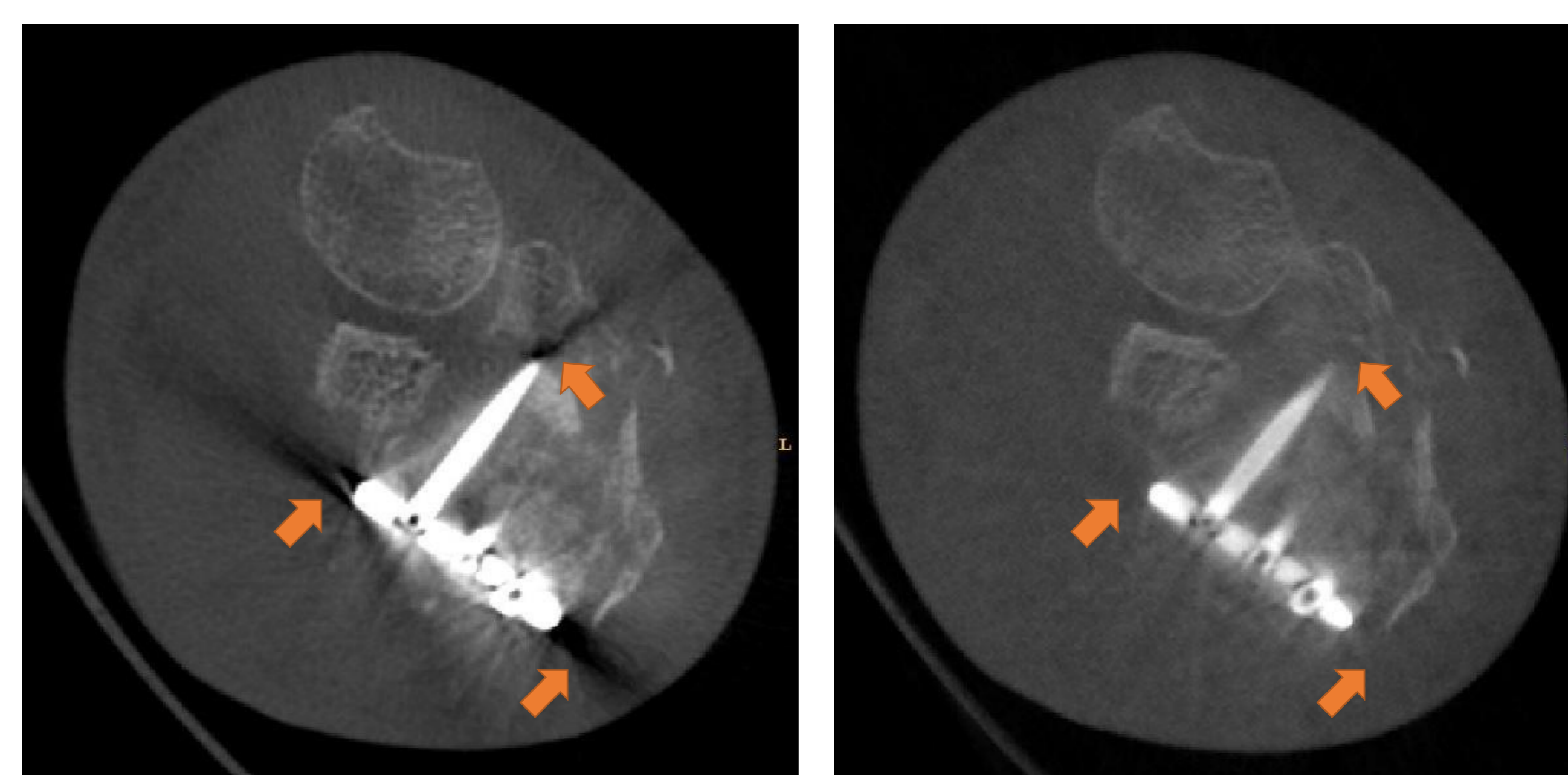


Fig 3: Metal-free and beam cancellation (right)

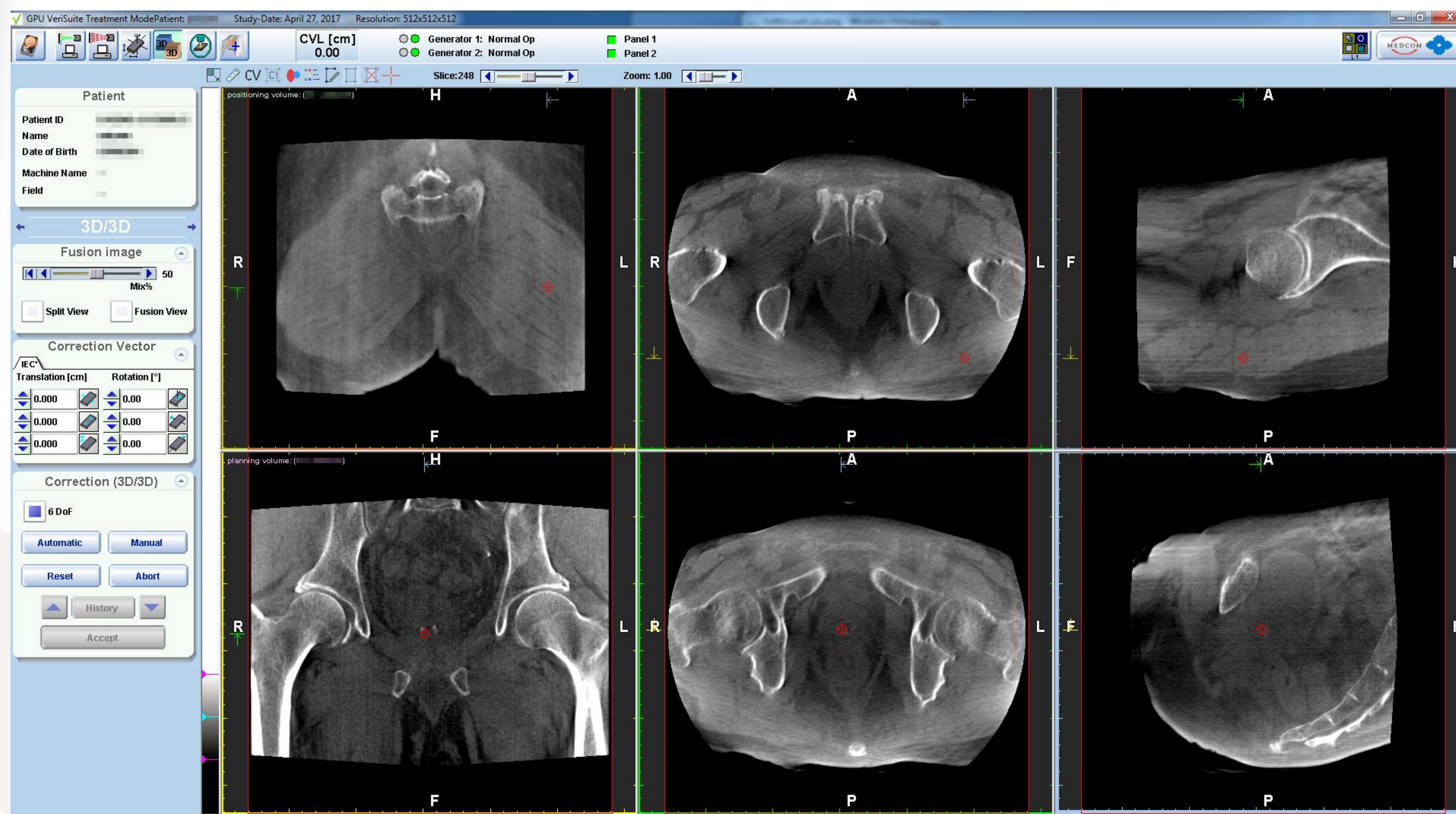


Fig 4: VeriSuite© CBCT reconstruction of a volunteer (Courtesy of Sapporo Teishinkai Hospital)

